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**NEW AREAS FOR REDUCING  
THE RISK OF OUTBREAK  
OF NUCLEAR WAR**

**AC6AC424**

PREPARED FOR  
U.S. ARMS CONTROL AND DISARMAMENT AGENCY

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## EXECUTIVE SUMMARY

One of the fundamental steps in the process of arms control planning and bilateral U.S.-U.S.S.R. negotiations to prevent crises that could lead to nuclear war is the identification of such crises. This report investigates and assesses broad categories of events that could precipitate these crises. The problem is to search for as yet unidentified 'new' categories of events; i.e., categories outside the coverage of the 1971 Agreement, the 1973 Agreement, and areas already studied (or now being studied) by the arms control community or other research and analysis groups.

In conducting this search, we reviewed recent crises to delineate their characteristics; we studied previous proposals for reducing the risk that war might result from surprise attack, accidents, or miscalculations in order to determine events to which past negotiations have responded. We also conducted investigations of the near-term international environment to identify focal points for future crisis situations. We screened events and identified categories in terms of crisis characteristics as well as coverage provided by the two U.S.-U.S.S.R. agreements.

A crisis in international relations is characterized by a threat to major national values, a perception that time for necessary decisions is short, or the inadequacy of preprogrammed responses. The risk of nuclear war may be increased; e.g., when commitments to engage in risktaking exist, dangers of escalation and uncertainty are present, or when crises involve contemplated or executed military actions by nuclear powers. We reviewed nineteen crises, which involved both the Soviet Union and the United States, to identify possible circumstances or behaviors that increase the risk of nuclear war. Ten crises seemed to indicate a low risk. They were marked by the early accession to or withdrawal of demands that threatened values of either nation. Nine crises appeared to involve an increased risk of nuclear war, they were characterized by changes in the deployment of nuclear weapons or ballistic missiles, threatened intervention by regular forces in an area where both sides were involved in military support operations, or aggressive acts by one superpower against the other superpower or its allies. Blockade or threatened blockade was involved in five of the nine crises. We found increased risk of nuclear war associated with recurring crises in three areas: Berlin, Cuba, and the Middle East.

Tacit restraints by the United States and the Soviet Union have precluded direct armed hostilities such as:

- o The use of nuclear weapons
- o Attacks on the territory of major powers
- o Interference with lines of communication to belligerent parties
- o Provocation of multiple bilateral confrontations
- o Confrontation between regular forces of the Soviet Union and the United States.

The two situations where confrontation between forces did occur—in the Berlin Blockade and the Cuban "quarantine"—provoked the most serious crises of the nuclear era. Although tacit restraints have served to reduce the risk of war, they also have the effect of sanctioning less hostile actions and may serve to mark turning points in future crisis behavior where general war may appear inevitable.

Crisis control measures to reduce the risks of war resulting from surprise attack, accidents, miscalculation, or loss of communication have been the subject of negotiations dating back to 1955. Approaches to these negotiations have changed as a result of improved reconnaissance technology, the political evolution of Europe, and an acceptance of the character of strategic operations. A large number of related specific measures have been agreed to in the "Hot Line," "Accidents Measures," "Incidents at Sea," "SALT," and "Prevention of Nuclear War" instruments. Most recently, the Conference on Cooperation and Security in Europe has evolved a number of "confidence-building" measures that, although voluntary and limited, began a process of reducing the risks of war posed by misinterpreting activities of conventional forces in Europe. Possibly, the most important achievement of previous negotiations is an understanding shared by the United States and the Soviet Union that the two parties are obligated to maintain communication despite confrontation. While much is left to the initiative and style of each government, there appears to be a common understanding, demonstrated by written agreement and crisis behavior, that special caution is required to reduce the hazards of precipitous action in crises.

Future contexts and a variety of political-military scenarios were investigated to anticipate kinds of crisis situations that might influence the future international environment—especially the particular aspects regarding the relative positions and responsibilities of the two superpowers. Important influences are outlined and discussed. In brief these include: the relative diffusion of power by the superpowers, the continued rivalry between the superpowers, the spread of military armament to other countries, increased competition for access to vital raw materials, continued Soviet domination of Eastern Europe, the strong U.S. ties with Western Europe, and the continued problem of economic recession for the democratic industrialized societies. From such reviews, as well as from an investigation of scenarios, previous proposals to reduce the risks of war, and recent crises, crisis events are screened and identified according to categories.

The 35 categories of events identified are arranged into two major groups for discussion and assessment purposes. The groups, which focus on the superpowers' involvement and control over the crisis events, are: direct control, where the superpower is directly involved and can exercise some degree of control; and indirect control, where the initiators of the events are most often other countries and, thus, the superpowers may not be able to exercise direct control. Subheadings are used within the two groups to further refine the categories.

With several possible exceptions, all of the 35 categories of events appear to be covered by one or both of the two bilateral agreements. However, coverage by the 1971 Agreement is limited to 11 of the 35 categories of events and the coverage is primarily applicable to those grouped under superpower direct control. Using a broad interpretation, especially regarding Articles I and IV, the 1973 Agreement appears to cover the majority of the remaining categories of events. However, there may be some question regarding the applicability of the 1973 Agreement to the following six categories of events:

- o Surprise development and testing of advanced strategic system by superpower
- o Third-country use or threatened use of nuclear weapons against another third country
- o Large-scale war (nonnuclear) between third countries

- o Seizure or threatened seizure of indigenous nuclear weapons in third country by opposing political group
- o Unexplained nuclear detonation(s) in a country not previously considered to be a nuclear power
- o Major expansion/acceleration of third-country nuclear armament program.

Surprise development and testing of an advanced strategic weapon system by a superpower may be covered by Article I of the 1973 Agreement. The next two events, both involving armed conflict between third countries, could be covered by Article IV of the Agreement, should either the United States or the Soviet Union judge that such relations between those countries (not parties to the Agreement) could involve the risk of nuclear war between the superpowers and should consultations between the superpowers not be excluded because of Article VI.

The last three categories of events involve nuclear weapons and nuclear materials situations that occur within a country that is not party to the bilateral agreement. They are viewed as "worry areas," possibly lacking in coverage under the existing agreements and having the potential to draw the superpowers into a third-country nuclear weapon situation that could be very dangerous. As such, the general circumstances envisioned for each are as follows:

- o Seizure or threatened seizure of indigenous nuclear weapons in third country by opposing political group.

Ownership or control of indigenous nuclear weapons (or, possibly, nuclear weapon assembly, production, and manufacturing facilities) might be at risk should collapse of a third-country national government be imminent. Dissident factions or invading forces could be threatening to seize the indigenous nuclear weapons or already could have seized them. The legal government might request entry of a superpower to secure and/or remove the nuclear weapons. On the other hand, the superpower's entry to accomplish such tasks might be without invitation.

- o Unexplained nuclear detonation(s) in a country not previously considered to be a nuclear power.

The circumstances envisioned cover a wide range of possibilities. The detonation might be in a location where no damage results, or it could result in extensive damage and casualties. The detonation might be in an allied country or in another third country and might be accidental or intentional. The weapon (or device) might have been locally manufactured or might have belonged to another country, including the superpowers. If intentionally detonated, those responsible might be of an opposing political group within the country or agents of another government, including that of a superpower. The motive might be terrorism, coercion, or retaliation for previous actions by the affected country.

- o Major expansion/acceleration of third-country nuclear armament program.

Such activity could represent a threat to a superpower, cause a threat to another country, or raise serious concern between the superpowers. For example, should the third country be especially hostile to a superpower or be located on the border of a superpower, its actions would likely be a source of marked concern to the superpower. On the other hand, if the country is an ally of a superpower or is at least considered friendly, concern would still exist as to the reason for the acceleration. Reasons might be attributed to, e.g., the third country's expected collapse of alliances, withdrawal from a superpower's protective cover, or fear of an attack by a hostile country.

Although surprise development and testing of an advanced strategic weapon system by a superpower may be covered by the 1973 Agreement—as noted earlier—it also might be considered a legitimate "worry area" so far as increased risk of nuclear war is concerned. However, it seems equally obvious that neither the United States nor the Soviet Union would consider giving up or bargaining away the right to pursue and to engage in the kinds of basic research that might lead to technological breakthroughs. Further, it seems that neither party would trade away its right to use such technology if it should provide a distinct major military advantage.

In conclusion, the investigation has not uncovered any areas that can be considered wholly "new;" however, several areas involving possible nuclear weapon situations in third

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countries appear interesting because of possible superpower involvement and possible lack of coverage afforded by the 1971 and 1973 bilateral agreements. Depending on just how serious or dangerous such situations are regarded to be, consideration might be given to possible initiatives that elaborate on or extend the agreements.

## I. INTRODUCTION

## A. Purpose and Scope

The purpose of this report is to present the results of the research conducted for the U.S. Arms Control and Disarmament Agency (ACDA) under Contract No. AC6AC424. The problem was to search for and identify new, broad categories of events that could increase the risk of outbreak of nuclear war between the United States and the Soviet Union. "New" denotes categories of events outside areas being investigated by the arms control community and events outside the coverage of existing agreements, particularly coverage provided by the 1971 Agreement\* and the 1973 Agreement+.

Identification of such categories of events is one of the first fundamental steps in the process of arms control planning and bilateral U.S.-U.S.S.R. negotiations to prevent crises that may result in nuclear war between the two powers. Attention is on the problem of unintended nuclear war—the initiation of a general strategic nuclear exchange that might be provoked by misunderstandings, erroneous or incomplete information, misperception, accidents, or mistakes. The United States has pledged itself, by the 1971 Agreement, "to . . . continued efforts . . . to seek ways of reducing the risk of outbreak of nuclear war." ACDA has identified and studied broad categories of events as focuses for those continued efforts: for example, the survivability and availability of crisis communications systems; the theft, use, or threatened use of nuclear weapons or materials by terrorists or other nongovernment groups, and third-country provocation of nuclear war between the United States and the Soviet Union through the use of nuclear weapons. There is a genuine need for planning for such contingencies — planning for the unexpected, the unfamiliar, the improbable. Of major interest are particular categories of events that might be the basis for identifying initiatives attractive for further investigation by appropriate U.S. Government agencies.

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\*"Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War between the United States of America and the Union of Soviet Socialist Republics," September 30, 1971.

+ "American-Soviet Agreement on the Prevention of Nuclear War," June 22, 1973.

The approach used to accomplish the assigned task consisted of two essential phases: (1) exploratory research to acquire background and information on past international crises, proposed measures, and the future international environment in order to distinguish events and situations that could seriously threaten relations between the superpowers and (2) identification and assessment of categories of crisis events in terms of characteristics and the coverage provided by the two principal U.S.-U.S.S.R. agreements. Section II, III, and IV of this report describe the exploratory phase. Section V contains the identification, discussion, and assessment of the categories of events, describes the attention shown to the interpretation of the two bilateral agreements, and discusses possible "new" areas.

Research for this report concentrated primarily on open source literature. A wealth of source material written by widely recognized authorities is available on, for example: arms control; the proliferation of nuclear arms; the history, characteristics, and management of past international crises; U.S. and U.S.S.R. foreign affairs; superpower relations and roles in the future international environment; and possible future armed conflicts in the third world.

#### B. Risk of Nuclear War

Risk of nuclear war is a subjective concept. It relies on degree of belief—on individual judgments derived from partial information perceived in the context of personal experience. Because war between the nuclear powers has not occurred, there is no data base from which to draw empirical data. Additionally, international relations involve a number of relatively independent centers of decision and perception. Between nuclear powers, risk is dependent upon interactions between at least two governments; within the decisionmaking apparatus of each, there exist multiple sources possessing different perceptions of nuclear war and its attendant consequences. A single objective definition of risk is therefore difficult to set down. For purposes of this study, risk is regarded as the chance that a nuclear weapon is intentionally exploded.

To better understand how the risk of nuclear war might increase, a concept of international conflict that has been used in previous ACDA research is useful. It is postulated that:

- o A dispute arises between parties capable of nuclear war.

- o At least one of the parties begins to think of the dispute in terms of a potential military solution.
- o A conflict is perceived in military terms by at least one party.
- o Hostilities occur.<sup>1, 2</sup>

Nuclear war is but one among many military options open to nuclear powers; it is but a subset of alternative methods to approach a conflict or a dispute. A threshold is reached, and risk increases when nuclear war becomes "thinkable" during conflicts between nuclear powers.\* Below the level of conflict is another threshold where military solutions are first introduced. It is postulated that this threshold is marked by a crisis, a period where decisions involving possible military action must be made. While crises mark a change in the risk of nuclear war, the extent of change is determined by how the option to use nuclear weapons is perceived as an alternative direct action.

A review of the recent crisis behavior of the United States and the Soviet Union to examine conditions that increase risk of war may contribute to an understanding of the risks of nuclear war.

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\*Herman Kahn, in his study of escalation, On Escalation: Metaphors and Scenarios, uses the metaphor of an "escalation ladder," where nuclear war becomes credible after 9 out of 44 identified "rungs". Some 11 "rungs" intervene between thresholds of "thinkability" and nuclear war.<sup>3</sup>

## II. PREVIOUS CRISES

This section reviews recent crisis situations where an apparent increased risk of war existed between the United States and the Soviet Union. Although the exposition focuses on confrontations during the past three decades between the principal nuclear powers, the United States and the Soviet Union, a more general frame of reference is used to identify common characteristics of crises. From these common characteristics, we identify circumstances and behaviors that increase or reduce the risk of war.

## A. Characteristics of Crises

A crisis in international relations is here defined as a situation that involves a perceived threat to major national values when time for decision is short and advanced planning is inadequate.\*4, 5, 6 Perceived variations of threat, time, and surprise affect the intensity of crises; under the stress of crisis, policymakers tend to misperceive reality, restrict consideration of alternatives, become more concerned with immediate rather than long-range goals, and emphasize the limitations of time. As stress increases, communications become stereotyped, communication channels become overloaded, improvised channels are used, and communications with the adversary are reduced.<sup>8</sup> In short, during crises policymakers are inclined to misinterpret and overreact to reality. While direct links between crisis decisionmaking and decisions to go to war are not well established, it is clear that crises are fraught with dangers of miscalculations that could lead to war. Two characteristics attributed to groups involved in crisis decisions are particularly relevant:

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\*Anthony J. Weiner and Herman Kahn identify the following characteristics of crises: (1) turning points are perceived, (2) decisions or actions are required, (3) threats, warnings, or promises are seen, (4) the outcome will shape the future, (5) events converge, (6) uncertainties increase, (7) control of events decreases, (8) urgency increases, (9) information may become inadequate, (10) time pressures increase, (11) interrelations between actors are changed, and (12) international tensions increase. These effects are taken as inherent in an understanding of threat, time, and surprise.<sup>7</sup>

- o A shared illusion of invulnerability that creates excessive optimism and encourages taking extreme risks
- o Stereotyped views of enemy leaders as too evil to warrant genuine attempts to negotiate or too weak and stupid to counter whatever risky attempts are made to defeat their purposes.<sup>9</sup>

When such "groupthink"\* colors perceptions on both sides of a crisis, an escalating pattern of challenges and counterchallenges evolves; acceptable alternatives to war are reduced and eventually eliminated. While such a decision-oriented description may not account for wars that may be caused by premeditation or those that may result from accidents, the process does give content to the concept of wars being caused by miscalculation or misperception.†

At least six alternative modes of behavior are available to parties faced with demands that threaten established values:

- o Avoid or obtain withdrawal of demands
- o Submit to demands
- o Accept "passive settlement"—an adjustment to a new status without agreement
- o Compromise (partial withdrawal and submission on both sides)
- o Submit to arbitration/adjudication
- o Initiate armed conflict.<sup>11</sup>

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\*"Groupthink refers to a deterioration of mental efficiency, reality testing, and moral judgment that result from in-group pressures." The term was invented by Janis.<sup>10</sup>

†It has been argued that no war has been caused by accident—only by miscalculation of appropriate responses to accidents.

No matter which alternative evolves, a process of bargaining takes place between two or more governments. Commitments are made; rewards are offered; demands are stated; and warnings or threats are exchanged. Bargaining can be explicit through some form of negotiation or implicit through unilateral actions. Frequently, military actions are used to increase the credibility of the bargaining stance or of some implied threat. Eventually, one or more "aggressive acts" may be contemplated by a party to the dispute. These are conveniently, but not exhaustively, cataloged by a U.S. General Assembly Resolution of December 14, 1974:

(a) The invasion or attack by the armed forces of a state of the territory of another state, or any military occupation, however temporary, resulting from such invasion or attack, or any annexation by the use of force of the territory of another state or part thereof;

(b) Bombardment by the armed forces of a state against the territory of another state or the use of any weapons by a state against the territory of another state;

(c) The blockade of the ports or coasts of a state by the armed forces of another state;

(d) An attack by the armed forces of a state on the land, sea or air forces, marine and air fleets of another state;

(e) The use of armed forces of one state, which are within the territory of another state with the agreement of the receiving state, in contravention of the conditions provided for in the agreement or any extension of their presence in such territory beyond the termination of the agreement;

(f) The action of a state in allowing its territory, which it has placed at the disposal of another state, to be used by that other state for perpetrating an act of aggression against a third state;

(g) The sending by or on behalf of a state of armed bands, groups, irregulars or mercenaries, which carry out acts of armed force against another state of such gravity as to amount to the acts listed above, or its substantial involvement therein.<sup>12</sup>

When such acts become relevant to crisis decisions, there is a risk of war.

### B. The Roles of Warnings and Threats

In addition to their role as indicators of crises and, specifically, of contemplated military action, warnings and threats, explicit or veiled, may be exchanged to alter an opponent's expectations about the outcome of a contest over issues. A threat differs from a warning in that it asserts that the warning party will make a special effort to ensure a predicted loss; a warning implies that loss flows from the natural consequences of an action.<sup>13</sup> Although explicit threats are generally disdained in diplomatic practice,<sup>14</sup> Dr. H. Kissinger has noted that "in every crisis from the Congo to Cuba, the Soviet Union has threatened missile attacks, often in a fashion that has made subsequent actions seem to have been the result of Soviet missile blackmail."<sup>15</sup> For example Khrushchev said with reference to Bulganin's letters during the 1956 Suez crisis:

The Soviet Government sent notes to Eden, Guy Mollet and Ben Gurion warning that there was a country which could deal them a crushing blow if aggression was not ended. Exactly 22 hours later this war was ended.<sup>16</sup>

Despite the negative effect of threats on the resolution of issues and the fact that "threat or use of force" is prohibited both by the U.N. Charter<sup>17</sup> and by more recent bilateral codes of behavior,<sup>18</sup> they remain a feature of U.S.-Soviet relations. The Soviet Union appears to have changed the form of its threats from the naked and publicized bombast of the 1950s to those conveyed in more veiled and private exchanges. During the 1973 Middle East war, for example, it appeared that Israeli forces might take Cairo. It is evident that a threat "to take independent action" such as the one conveyed during the 1967 war when Israeli forces were in a position to take Damascus may have been communicated in the "very frequent, very confidential exchanges" between President Nixon and Mr. Brezhnev.\* At any rate, an implicit threat was also made evident by indications that Soviet airborne forces had been put on alert. The situation was made more serious by the additional threat implicit in the movement of Soviet

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\*In 1967 Kosygin communicated the possibility of an "independent decision" with a risk of "grave catastrophe." If Israel did not halt military operations against Damascus, the Soviet Union would take "necessary actions, including military." That a similar threat was conveyed in 1973 is conjecture based on the analogous military situation facing Cairo.<sup>19</sup>

SCUD missiles to Egypt. The SCUD is effective only with nuclear or chemical warheads, and reports persist that the Soviet Union also moved nuclear warheads into the port of Alexandria during the conflict.<sup>20</sup> The implied threats had a nuclear dimension.

The U.S. style may have changed also. Although U.S. practice has traditionally disdained even implicit nuclear threats, in the face of the Soviet actions in 1973, U.S. forces worldwide were put into a state of increased alert. Despite considerable domestic criticism, the U.S. move, coupled with pressures for a cease-fire directed at the Israelis, appeared to achieve the desired effect. Soviet intervention did not extend beyond the airlift of supplies that began early in the conflict.

While threats appear to have negative effects in crisis negotiations, warnings can have, in some instances, positive effects. Warnings may serve to ensure that both sides share a common understanding of the gravity of a situation and of each side's specific interests, commitments, and intentions.

### C. Chronology of Crises

At this point, it is useful to introduce a chronology of crises, which will be a basic reference for much of the remainder of this section. Taken from a number of standard references, the chronology illustrated in Table 1 represents a consensus about situations that may be identified as crises in U.S. and U.S.S.R. relations.<sup>21, 22</sup> The situations encompass crisis variables of threat, time, and surprise, but they also involve contemplated military actions indicated by explicit warnings or threats of military action or by an implicit threat conveyed by the mobilization of armed forces. Four situations—Hungary, 1956; Cuba, 1961; Dominican Republic, 1965; and Czechoslovakia, 1968—all of which involved the intervention of armed forces of the Soviet Union or the United States in foreign areas, are included because they were an overt use of armed force even though they did not result in interbloc hostilities. The chronology provides descriptive information and indicates (1) issues in dispute, (2) aggressive acts, (3) U.S. or Soviet military responses, and (4) the manner of termination.

#### 1. Issues in Dispute

It has been suggested that issues in dispute in international crises can be categorized as contesting territory,

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TABLE 1

## CHRONOLOGY OF CRISES

Identifier	Description	Issue in Dispute	Aggressive Act(s)	Military Actions	Termination
Berlin, 1948	Currency reform Denial of surface access	Right of access	Blockade	U.S. airlift Western maneuvers, reinforcements Soviet harassment of airlift	Compromise (partition)
Korea, 1950	Invasion of South Korea	Territory	Invasion	U.S. conventional war Soviet military supply	Military stalemate
Suez, 1956	Nationalization of Suez Canal Invasion by U.K., France, Israel	Property rights	Invasion	U.S. alert, naval movements Soviet threatened bombardment	U.K.-France-Israel Withdrawal
Hungary, 1956	Internal instability	Domestic government	Invasion	U.S. cancels proximate maneuvers	U.S. accedes to demands
Syria - Turkey, 1957	Warnings by Soviets and Syria of invasion Syria and Turkey mobilize	Domestic government	Threatened invasion	U.S. reinforces 6th Fleet, cancels proximate exercises	Passive
Lebanon, 1958	Internal instability	Domestic government	---	U.S. security force intervenes	Soviets accede
Berlin Deadline, 1958	Soviet ultimata for West to withdraw	Right of access	Threatened blockade	Soviet harassment of access	Soviet withdrawal of demands
U-2, 1960	Violation of Soviet airspace	Right of access	Threatened bombardment	U.S. stops flights	U.S. Withdrawal
Bay of Pigs (Cuba, 1961)	Invasion by U.S.-sponsored Cuban force	Domestic government	Irregulars Invasion 3rd country use	U.S. trains, supplies, and escorts force	Military defeat
Berlin Wall, 1961	DDR forces close Berlin border	Right of access	Blockade	Soviet harassment of access U.S. reinforcements	U.S. accedes

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TABLE 1

## CHRONOLOGY OF CRISES (Continued)

Identifier	Description	Issue in Dispute	Aggressive Act(s)	Military Actions	Termination
Cuban Missile (Cuba, 1962)	Introduction of offensive missiles to Cuba	Strategic balance	Blockade	U.S. naval quarantine U.S. and Soviet forces to increased alert	Soviet withdrawal of missiles
Berlin Autobahn, 1963	Harassment of access	Right of access	Threatened blockade	U.S. reinforces Berlin Brigade	Soviet withdrawal of demands
Dominican Republic, 1965	Internal instability	Domestic government	None	U.S. security force intervenes	Soviets accede withdrawal
Arab - Israeli, 1967	Closing of Gulf of Aqaba Preemptive Israeli attack	Right of access	Blockade bombardment invasion	U.S. and Soviet naval deployments	Arab military defeat
Czechoslovakia, 1968	Liberalization of Czech regime	Domestic government	Invasion	Warsaw pact occupation U.S. cancels proximate maneuvers	Soviet military victory
Jordan, 1970	Internal instability PLO & Syrian attacks	Domestic government	Irregulars 3rd country use Invasion	U.S. military supply Reported movement of Soviet advisors	PLO military loss
Cuba, 1970	Threatened introduction of strategic weapons	Strategic balance	---	U.S. increased surveillance	Soviet withdrawal
Arab - Israeli, 1973	Syrian invasion	Territorial	Invasion	U.S. and Soviet military supplies Soviet alert of airborne force U.S. military alert	Arab military defeat
Angola, 1975	Internal instability	Domestic government	Irregulars 3rd country use	U.S. and Soviet military supplies	MPLA military victory

status, human resources, or nonhuman resources.<sup>23</sup> Another similar categorization deals with contests of hegemony or territory, domestic government, treatment of nationals or property, and rights of access or use.<sup>24</sup> Neither of these classifications is entirely useful because categories fail to be mutually exclusive. For example, territorial claims inherently involve rights of access and use. Within the latter classification scheme, moreover, the issues underlying the Cuba crises of 1962 and 1970, which would be called "hegemonial," are of such a different status that they might be called issues of "strategic balance." The addition of a category "strategic balance" and elimination of the hegemonial aspect of territorial claims also relieves a decision about whether Hungary, Czechoslovakia, Lebanon, and Cuba are issues of territorial hegemony or of domestic government.

A review of the 19 identified crises in Table 1 reveals the classes of issues in dispute.

- o Rights of Access or Use - 7
- o Domestic Government - 7
- o Territorial - 3
- o Strategic Balance - 2
- o Treatment of Nationals - 0

Rights of access or use have precipitated 7 of the 19 identified crises. Berlin agreements, evolving settlements in the Middle East, and the discontinuance of aerial reconnaissance of the Soviet Union may have made such disputes a thing of the past. One is less sanguine, however, if rights of access or use are interpreted as rights or obligations evolving from treaties or agreements. The proliferation of agreements between the United States and the Soviet Union, especially in the area of arms control, sustains a possibility of continuing crises related to divergent interpretations of treaty rights and obligations.

Issues revolving around the character and stability of domestic governments, such as those underlying crises in Hungary, Lebanon, Cuba (1961), Dominican Republic, Czechoslovakia, and Jordan, have been the second most prevalent source of superpower confrontation. In effect, however, neither the United States nor the Soviet Union has chosen to take risks in such situations, thus recognizing an implicit hegemony of the other side. As the Soviet Union increases its capability for military intervention outside of Europe, future conflicts

over the character of domestic government may evolve where both sides claim equal interest and maintain similar capabilities to intervene.

Territorial issues emphasize the continuing potential for conflict in the Middle East and, possibly, in Korea. While these two areas remain a continuing concern of diplomacy, the Syria-Turkey crisis is a reminder of the potential hazards inherent in a cycle of threats, mobilizations, and commitments of superpower support.

The two crises related to Cuba and issues of strategic weapons have fostered a shared sensitivity to the risks of direct confrontation. While the 1962 crisis provoked one of the most serious confrontations of the nuclear era, the 1970 case was quietly disposed of. Confronted by the United States with hard evidence that a support base for nuclear submarines was being constructed at Cienfuegos, Cuba, the Soviets aborted their efforts before the arrival of "offensive" weapons that would violate 1962 understandings. According to Dr. Kissinger, Soviet Ambassador Dobrynin turned "ashen" when the full evidence and the possible consequences were outlined to him.<sup>25</sup> Fortunately, the activity could be reversed without loss of face, and the Soviet Union acceded to the U.S. demand that strategic weapons not be placed in Cuba. The incident emphasizes that the stationing of strategic weapons in areas where they now are not located is a source of increased risk and a cause for urgent decision and negotiation.

## 2. Acts of Aggression

Acts of aggression, identified earlier, signal the onset of hostilities. They work a major change in the character of interstate relations. Within the crises reviewed, the following aggressive acts (and their frequency) were threatened or actually occurred:

o Invasion (including armed attack)	- 10
o Blockade	- 6
o Attack by irregular forces	- 3
o Use of territory for attack	- 3
o Bombardment	- 2
o Other armed attack (other than invasion)	- 0
o Extension of military presence	- 0
o No definitive act or threat	- 3

Invasion, or threatened invasion, involving armed attack and the occupation of territory has been the most common aggressive act within postwar interbloc crises. However, of the 10 instances of invasion, 5 have involved external support for factions contesting control of domestic government. Two other instances, coded as "no definitive act," also involve military support (U.S.) in domestic crises. (The classification reflects an acknowledged bias that accords legitimacy to requests for U.S. aid from Lebanon and the Dominican Republic and denies the legitimacy of requests for Soviet aid from Hungary and Czechoslovakia.)

Outright invasion in pursuit of territorial claims has occurred only in Korea and in the 1973 Middle East war. In the 1967 Middle East war, invasion followed a series of aggressive acts and the defeat of military forces. The 1956 invasion of Egypt evolved to protect rights to use of the Suez Canal, and threatened invasions of Syria or Turkey in 1958 never materialized. Invasion remains the principal manifestation of hostilities but is likely to be obscured by the interplay of domestic politics and internal warfare where requests for assistance enjoy varying degrees of legitimacy. Competitive support for contesting factions, as the Angola experience indicates, increases risks of U.S.-U.S.S.R. confrontation.

Blockades, in various forms, have been involved in six postwar crises. Four of these involved Berlin if the reverse blockade symbolized by the Berlin Wall is included. The Arab-Israeli war of 1967 was provoked by the closure of the Gulf of Aqaba, and the "quarantine" of Cuba was the instrument of military suasion that turned the crisis. Because blockade is a clearly limited and apparently passive initiative that requires another hostile action to "force the blockade," it remains an instrument of future conflict—especially in likely future scenarios of logistic support to factions contesting control of domestic governments.

Attack by irregular forces from another country was an element of crises identified as the Bay of Pigs, Jordan (1970), and Angola. Although the list of situations involving external support of irregulars might be extended, these three are distinguished by the involvement or threatened involvement of both superpowers. Each of these crises illustrates a temptation to escalate the form of support from logistic and training activity to more direct forms of intervention.

Pressures for USAF support at the Bay of Pigs and the invasion by Syrian tank units illustrates a process in which established regular forces are called upon to save a failing irregular campaign.

The three instances where no definitive acts or threats of aggression are identified illustrate the effect of legitimate requests for aid from recognized Governments (in Lebanon and the Dominican Republic) or the effect of early diplomatic confrontation in Cuba 1970. That these crises did not provoke interbloc hostilities may also illustrate an acknowledgment of the legitimacy of U.S. claims or of a U.S. military advantage. The reverse situation occurred in the Hungarian and Czechoslovak crises when the U.S. chose not to contest by military means the legitimacy of Soviet intervention. While one is reluctant to speak of "spheres of influence," there does seem to be a reciprocal understanding that one nation does not intervene militarily in areas "vital" to the other.

### 3. Military Actions

Within postwar crises between the Soviet Union and the United States, a variety of military actions have occurred that are below the level of armed hostilities. These include:

- o Provision by military forces of humanitarian or nonmilitary supplies
- o Provision of military supplies
- o Training of nonnational military forces
- o Provision of military advisors
- o Transport of nonnational military forces
- o Show of force or maneuvers
- o Reinforcement of proximate units
- o Assume alert status/increase in readiness
- o Nonintrusive reconnaissance or surveillance
- o Cover/defense support/escort
- o Introduction of troops to proximate areas
- o Partial mobilization
- o Provision of security force/separate warring factions
- o Intrusive reconnaissance.

Such actions serve to increase the military capability of a party to a dispute or to symbolize commitment or threat. An alert of military units, for example, serves both real and symbolic purposes. Absence of certain actions may serve to provide assurance, while the presence of certain actions combined with the absence of others may convey limits of involve-

ment. The fact remains that confrontations have been limited.

More important than actions that have occurred are, perhaps, those that have not. Tacit restraints have generally precluded:

- o The use of nuclear weapons
- o Attacks on territory of major powers
- o Interference with lines of communication to belligerent parties
- o Confrontation between regular forces of the Soviet Union and the United States
- o Intentional provocation of multiple bilateral confrontations.

The acceptance of these prohibitions seems to have evolved into behavior that finds the United States avoiding overt interference with Soviet operations in areas it militarily controlled at the end of WW II and that finds the Soviet Union avoiding overt interference with U.S. operations elsewhere.\* The pattern of crisis termination may illuminate the behavior.

#### 4. Crisis Termination

Termination of a crisis is the result of some form of bargaining, including the resort to armed conflict. All 19 crises were resolved short of all-out war even though supposedly "vital" interests were involved on both sides. The Soviets withdrew demands for change in Berlin during 1958 and 1963 and in Cuba during 1962 and 1970. The United States discontinued its U-2 operations—a form of withdrawal—in 1960. The Soviets acceded to U.S. or western intervention in the Suez, Lebanon, and Dominican Republic crises, while the United States acceded to Soviet intervention in Hungary, Berlin during 1961, and in Czechoslovakia. Compromise, in the form of partition, marked the termination of the 1948 Berlin crisis. A "passive" settlement, a return to the previous status quo, resolved the crisis between Syria and Turkey. Most important, both sides have allowed their clients to suffer military defeat rather than escalate the level of armed conflict. The Soviets suffered

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\*The behavior is suggested by Kahn.<sup>26</sup>

such embarrassment in the Middle East during 1967, 1970, and 1973. The United States faced similar circumstances at the Bay of Pigs and in Angola, while the conflict in Korea ended in military stalemate. The record of crisis termination, however, fails to reveal a simple geographic pattern. The NATO region and the Western Hemisphere seem to reflect areas where Soviets withdrew demands or acceded to those of the United States, and the Warsaw Pact area seems to be where the United States acceded to Soviet demands; however, the Middle East and Africa, since 1967, have become areas where confrontation has been resolved by intense local armed conflict. While the prohibition of direct confrontation appears to be relevant, it may be supported by the additional constraints that the curvival of a client state or uncontested government not be threatened. Where the character of domestic government is the issue in dispute, as in Jordan and Angola, other rules may apply.

#### D. Escalation of Conflict

Despite the tacit prohibition of confrontation between U.S. and Soviet forces, such confrontations have occurred during the series of Berlin crises and during the Cuba crisis of 1962. The military actions have involved:

- o Harassment of civilian movements
- o Harassment of military movements (air and land)
- o Blockade (unopposed).

These actions, culminating in blockade, have forced the blockaded party to choose either side of a discontinuous jump from limited military action to armed conflict. The risk of direct armed conflict has two parts. One is the threatened loss directly associated with the conflict in terms of casualties, materiel, and demonstrated military inadequacy. The second is the threat of increased risk of general war, the limits of which are unknown and out of either party's control. This is the "threat that leaves something to chance."<sup>27</sup> Thus far, neither the United States nor the Soviet Union has left that much to chance in the nuclear era. Both sides, the United States in Berlin and the Soviet Union in Cuba, have chosen to manage the risks of direct armed conflict by avoiding them. Neither chose to force a blockade.

Indirect conflict, however, poses problems of escalation. Either superpower can put enough resources into a particular indirect conflict to win, if the other side does not respond; the value of victory may be great enough to justify an

increased commitment; and limits to an increased commitment seem apparent.<sup>28</sup> Escalation by one party, however, increases risk that the other will respond and that an indirect conflict may develop to a situation of competitive escalation. The Middle East crises and Angola seem to typify situations of potential competitive escalation. Each evolved to a situation of more or less equal involvement by the United States and the Soviet Union; one side to the conflict was apparently suffering greater losses; and both major powers were taking action to reduce the losses of their clients. Such actions involved the resupply of materiel losses, the supply of more effective weapons, the increase of advisors or training personnel (nonmilitary units) and, in Angola, the introduction of proxy forces. In the three recent Middle East crises, competitive escalation was engaged in to a point where the introduction of Soviet forces was threatened. It was made apparent, however, that such an increased Soviet involvement would incur a U.S. response. As an alternative, cooperative efforts were initiated to limit the extent of losses to the failing side (to Syria in 1967, Syria in 1970, Egypt in 1973). While the Middle East crises enforced a precedent that military units of the superpowers would not be used in competitive escalation, the pattern in Angola appears to have introduced another form of intervention in the form of Cuban "volunteers." While it was clear that the United States deemed the level of Soviet and Cuban involvement escalatory, it did not respond because of domestic political reasons. The risks of war were managed again by avoiding them altogether.

While the tacit limits imposed on U.S.-Soviet confrontation have served to avert the risks of war, they may have unintended consequences. Both sides have learned that if these rules are observed, confrontation can remain limited. This lesson can have the negative effect of sanctioning behavior below the limits and creating more frequent opportunities for competitive escalation. More important, breaching a limit may signal a turning point where general war may appear inevitable and the only prudent course is a preemptive nuclear attack.<sup>29</sup> Having established such limits by observing them, the risks are increased if they happen to be breached by deliberate action, by accident, or by a misunderstanding of the other side's definition of the limit.

#### E. Incidents Within Crises

That unintended acts or accidents might provoke war has been recognized by both the Soviet Union and the United States since the 1950s. Negotiations, however, have often focused on

incidents as if they happened out of the blue. More dangerous, however, are incidents that happen within crises after threats have been exchanged and military forces have been readied to conduct a number of preprogrammed actions. At least two such incidents occurred during the 1962 Cuban missile crisis. On October 27, 1962, at the height of the crisis, an unarmed U-2 took its bearings on the wrong star and headed for Moscow rather than for Alaska.\* That same day, a U.S. reconnaissance aircraft had been shot down over Cuba by a Soviet surface-to-air missile; President Kennedy canceled his earlier orders that in such a contingency the SAM site would be destroyed.<sup>31</sup> Fortunately, both sides treated the incidents as peripheral to the confrontation. Less than 5 years later, during the height of the 1967 Middle East war, the communications ship U.S.S. *Liberty*, was attacked. Although it was some time before the source of the attack was clear, President Johnson acted to assure the Soviet Union over the "Hot Line" that U.S. naval aircraft responding to the incident were not engaged in attacks on Soviet or Egyptian forces.<sup>32</sup> While the danger of accidents has been acknowledged in the form of the 1971 bilateral "Accidents Measures Agreement," the more dangerous situation of incidents within crises relies on the 1967 precedent and the prudence of crisis decisionmakers.

#### F. Secret Crises

This section so far has dealt with a series of public and acknowledged confrontations. There remains a category of crisis situations that may have occurred in response to unusual or unanticipated military or political events. On the military side, such events might include a change in the status of strategic forces such as the standdown, dispersal, or launching of bomber forces; an increased alert or multiple launch of strategic missiles; or an unusually high number of missile submarines at sea. Such changes require prudent countermeasures by opposing military forces, which in turn may require another response from the original party. On the political side, a dramatic political change such as a succession struggle in the Kremlin, impeachment, or, most dangerous, an assassination with hints of involvement by the other side, may prompt military actions that are subject to misinterpretation and inappropriate response. An investigation of such

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\*"Message from President Kennedy to Premier Khrushchev, October 28, 1962," in U.S. Arms Control and Disarmament Agency, Documents on Disarmament, 1962.<sup>30</sup>

military and political "secret crises" remains in the realm of intelligence and military operations and is beyond the scope of this research. Nevertheless, the possibility of such situations is acknowledged.

#### G. Crises and the Increased Risk of Nuclear War

Some crises have involved a greater risk of nuclear war than others. Some of the crises discussed in this section may have involved a serious consideration of nuclear operations. A threshold may have been crossed where nuclear war became "thinkable."\* Without access to the record of crises decisions—much less to the innermost thoughts of those who could command nuclear war—factors that affect the perceived relevance of nuclear actions are difficult to identify. Nevertheless, we will attempt to separate crises that seem not to have involved the consideration of nuclear operations from those in which nuclear war may have been thinkable. Crises identified as having a low risk of nuclear war will be used as a basis for elaboration of factors associated with increased risk.

##### 1. High-Risk Crises

Two crises are generally perceived as having been the most serious among postwar Soviet-U.S. confrontations. The first is the Cuban missile crisis, in which President Kennedy is said to have estimated the risks of nuclear war to be "between one out of three and even."<sup>33</sup> The Soviets, too, appear to classify the "Caribbean crisis" as the most dangerous situation of the postwar period. A second crisis thought to have involved the risk of general war was the 1948 Berlin Blockade. General Lucius Clay, during the crisis, estimated the risk of war to be "about one in four."<sup>34</sup> Although the Soviet Union had just exploded a nuclear device and U.S. capabilities to conduct a nuclear campaign were minimal, "the crisis marked the first time that nuclear weapons were seriously considered as a measure of last resort to check Soviet advances."<sup>35</sup> In both cases, however, options that included nuclear attack were set aside in favor of limited actions—a tacit agreement that allowed the U.S. attempt to flank a blockade by air and the later Soviet decision to honor a blockade and accede to the substance of U.S. demands.

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\*Nuclear war is necessarily "thinkable" to persons responsible for the planning and execution of nuclear operations. In this discussion, we are concerned with people described as the "National Command Authority," who must command the actual execution of nuclear operations.

## 2. Low-Risk Crises

At the other extreme, a series of crises seems to have involved little risk of nuclear war. In general, they were marked by asymmetric involvement by the Soviet Union and the United States, and, in effect, the recognition of a preponderant interest and military capability in "vital" areas. It is significant that a number of these crises involved nuclear threats (e.g., Suez, 1956; U-2, 1960; Cuba, 1961), but such (Soviet) threats were not accompanied by a capability to intervene at lesser levels of violence. Ten of the nineteen crises are subjectively categorized as having had a low risk of nuclear war between the United States and the Soviet Union:

Korea, 1950	U-2, 1960
Suez, 1956	Bay of Pigs, 1961
Hungary, 1956	Dominican Republic, 1965
Syria-Turkey, 1957	Czechoslovakia, 1968
Lebanon, 1958	Angola, 1975

## 3. Increased-Risk Crises

Between these two groups remains a group of seven that may have involved an increased risk of nuclear war. The seven are:

Berlin Deadline, 1958	Jordan, 1970
Berlin Wall, 1961	Cuba, 1970
Berlin Autobahn, 1963	Arab-Israeli, 1973
Arab-Israeli, 1967	

Elements of these seven crises along with the two "high-risk" crises (the Berlin Blockade and the Cuban Missile Crisis) may serve to illuminate the factors associated with an increased risk of nuclear war.

## 4. Increased-Risk Issues

Increased risk of nuclear war has been associated with recurring challenges to U.S. interests in Berlin, Cuba, and the

Middle East. Underlying the immediate issues in dispute have been Soviet challenges to basic U.S. commitments to the freedom of West Berlin, prevention of European military intervention in the Western Hemisphere, and the survival of Israel, which have emphasized Soviet willingness to engage in competitive risktaking, and dangers of escalation and uncertainty. In Berlin, the Four Power Agreements of 1971 seem to have established a modus vivendi, and, in Cuba, the 1962 agreement that "offensive" weapons not be stationed in Cuba seems confirmed by the 1970 withdrawal of Soviet submarine facilities. The specifics of the 1972 Cuba crisis, however, point to a broader aspect of risk that reflects on later crises in the Middle East. President Kennedy in his 22 October 1962 address remarked that "any sudden change in their [nuclear weapon and ballistic missiles] deployment may well be regarded as a definite threat to peace." Just such a sudden change in deployment may have occurred when Soviet missiles and, possibly, warheads were delivered to Egypt in 1973. This deployment could be perceived as a commitment to engage in limited risk-taking.

Apart from understandings and precedents that clarify issues of direct confrontation in Berlin and Cuba, the recurring crises in the Middle East reveal sources of increased risk that, perhaps, are more obscure. At issue in the Middle East has not only been the survival of Israel, but also the survival of Jordan, Syria, and Egypt. The Soviets threatened military intervention to protect Damascus and Cairo against Israel while the United States threatened military intervention to protect Jordan against Syria. While armed hostilities and territorial losses were tolerated, political existence was protected by threatened intervention. Disputes over the character or existence of domestic government, however, mark a number of crises outside the Middle East that involved a low risk of nuclear war; thus, the issue alone does not distinguish between increased-risk crises. Neither do aggressive acts by either the United States or the Soviet Union distinguish low-risk crises from those with increased risk.

##### 5. Increased-Risk Aggressive Acts

None of the low-risk situations involved aggressive acts between the Soviet Union and the United States. Five of the nine increased-risk situations, which involved aggressive acts directed at the other party, did. All five involved blockade, threatened blockade, or harassment of access. Blockade in various forms remains a relevant source of increased risk in

future situations wherein it may seem essential to prevent military intervention or the deployment of nuclear weapons. Aggressive acts other than blockade—~~invasion~~, attack, bombardment, attack by irregular forces, and use of territory—have not, of themselves, distinguished between low and increased risk of nuclear war situations. It seems clear, however, that should such acts be directed by one superpower toward the other superpower or nations associated by formal alliance, risk of nuclear war would be increased substantially. In circumstances wherein aggressive acts directed toward a Soviet force or ally seemed possible (e.g., Hungary, 1956; Czechoslovakia, 1968), the United States has signaled that it did not intend to engage in competitive risktaking by canceling proximate military exercises.

#### 6. Increased-Risk Military Operations

Military operations involving or threatening to involve regular forces of both the United States and the Soviet Union are associated with increased risk of nuclear war situations. Aside from blockade or threats of blockade in Berlin and Cuba, the three Middle East crises of 1967, 1970, and 1973 became critical when one side threatened intervention with military forces. In each case, the threat followed a competitive escalation in the form of less hostile military activities such as logistic support, training, or naval movements by both superpowers. Intervention by regular forces, however, has been tolerated in "low-risk" situations, but such intervention did not follow acknowledged involvement by the other party. The degree of commitment evidenced by previous military involvement by both parties distinguished the three Middle East crises; intervention with regular forces by one party would seem to have necessitated a similar response by the other. Confrontation between forces of the United States and the Soviet Union would have become a relevant possibility.

#### 7. Factors Associated with an Increased Risk of Nuclear War

A crisis arises when there is a perceived challenge to major national values, planned responses are inadequate, and time for decisions is short. When armed conflict becomes relevant among alternative responses to a crisis, there is an increased risk of war. Should states armed with nuclear weapons be involved in the dispute, there is an increased risk of nuclear war. Risk of nuclear war has been greatest when both the United States and the Soviet Union have approached direct military confrontation and when dangers of uncertainty and escalation have existed.

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The two superpowers have avoided an increased risk of nuclear war by avoiding any form of direct hostilities. The possibility of armed conflict between forces of the two delineates crises that have involved the greatest risk of nuclear war. Such situations have evolved from Soviet challenges to basic U.S. commitments in Berlin and from changes in the deployment of nuclear weapons. Blockade or threatened blockade has been the aggressive act associated with the greatest risk of nuclear war although other aggressive acts or military operations directed by one superpower toward the other power or its allies may entail even greater risk.

Aside from direct hostilities, armed conflict in non-nuclear countries has been associated with an increased risk of nuclear war when both superpowers were engaged in competitive support and when one of the powers has threatened to intervene with military units.

### III. REVIEW OF PREVIOUS PROPOSALS TO REDUCE THE RISKS OF WAR

Since 1955, disarmament concepts have evolved from universal plans for complete disarmament to a more pragmatic and incremental approach. Limited and specific agreements have been concluded that reflect concerns shared by both the United States and the Soviet Union that a world armed with nuclear weapons is a dangerous place for unrestrained conflict. Shared concerns led to a web of understandings and rules of conduct that culminated in the 1963 "Hot Line Agreement," the 1971 "Accidents Measures Agreement," the 1972 "Agreement on Prevention of Incidents at Sea," the 1973 "Agreement on the Prevention of Nuclear War," and "confidence-building" measures of the 1975 Final Act of the Conference on Security and Cooperation in Europe (CSCE).

In strategic discussions during the past two decades, numerous additional arms control measures have been advanced that relate to the risks of warfare stemming from accidents, miscalculation, or surprise attack. A review of these proposed measures and the course of previous negotiations can provide insights into the evolving rationale for dealing with risks of nuclear war, the depth of concern shared by the United States and the Soviet Union, and the possible events that previous negotiations responded to.

This section deals with a class of arms control measures that involve for the most part the exchange of information or restraint in military operations. Since they deal with clarifying intentions, the measures can be seen to represent a class of arms control activities closely akin to crisis management and procedures for emergency diplomacy. The current approach to relaxation of tensions appears consciously to aim at creating a pattern of specific relationships that tie the United States and the U.S.S.R. into a habit of interdependence and mutual interest. A multitude of forums is devoted to separate but interrelated measures that affect the risk of war in general and the risk of nuclear war in the extreme.\*

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\*For example, specific confidence-building measures discussed in the context of the CSCE and Mutual and Balanced Force Reduction (MBFR) in Europe are related to responsibilities of the Standing Consultative Commission (SCC) to monitor the "Hot Line" and "Accidents Measures" Agreements, even though several separate negotiations and panels are involved in the relationships.

To expedite a review of the background of measures related to accidental war, Table 2 presents a chronology of principal proposals.

It is useful to divide the chronology into three periods:

- o Concern about surprise attack (during the late 1950s)
- o Concern about accidental war and techniques of crisis management (in the 1960s)
- o Attention to a more general code of superpower behavior (after 1971).

#### A. Surprise Attack Measures

The vocabulary of surprise attack seems to have originated in the Soviet proposals before the 1955 London meetings of the U.N. Disarmament Subcommittee. A Soviet proposal to create an international body to warn of dangerous concentrations of military formations at important communications centers, ports, and airfields was submitted in lieu of a more comprehensive system to verify details of a general disarmament regime.<sup>36</sup> U.S. thinking at that time, however, focused on the necessity for more effective inspection and the potential role of aerial reconnaissance; surprise attack was a concern in its own right. President Eisenhower's "open skies" proposals provided for "a system to convince the world we are providing...against the possibility of a great surprise attack" as a preparatory step preceding general disarmament and effective inspection. The earlier Soviet proposals were incorporated in the U.S. disarmament planning. Within the year, provisions for advance notification of military movements were added to the U.S. plan.<sup>37</sup> By 1958, surprise attack became a separate area of mutual U.S.-U.S.S.R. concern. An East-West conference of experts met to explore practical details but failed to agree on a technical approach.<sup>38</sup> The United States continued to pursue the study of surprise attack measures despite the political nature of Soviet responses, but substantive agreements eluded negotiators during the 1950s.

The failure of the surprise attack approach might be laid to a fundamental disagreement between the United States and the Soviet Union on effective control of disarmament. In Soviet military and internal affairs, secrecy is considered

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TABLE 2  
PROPOSED ARMS CONTROL MEASURES TO REDUCE THE RISKS  
OF WAR BY ACCIDENT, MISCALCULATION, AND SURPRISE ATTACK

MEASURE (ORIGINATOR)	DATE OF ORIGIN	REMARKS
Internationally manned ground control posts at ports, railroad terminals, airfields, and main highways (U.S.S.R.)	May 1955	Partially covered by invited observers under CSCE measures
Exchange "blueprints" of military establishments and conduct air reconnaissance (U.S.)	Jul 1955	Overtaken by reconnaissance technology
Joint U.S./U.S.S.R. mobile ground inspection teams with independent communications in Central Europe (U.S./West Europe)* (1,500 on each side without entry/access to identified nuclear storage or to private buildings)	1957	
Overlapping radar chains (U.S./West Europe)*	1957	
Inspection and control of nuclear delivery vehicles (U.S./West Europe)*	1957	
Exchange of information on force deployments (U.S./West Europe)*	1957	Partially covered by SALT & MBFR exchanges
Advance notification of military movements (U.S./West Europe)*	1957	Partially covered by voluntary notification of "maneuvers" under CSCE
Inspection zones for the Arctic and Europe (several discussed) (U.S./U.S.S.R.)	1958	Overtaken by reconnaissance technology
Arctic inspection zone with notification of flights and military movements (U.S.)	Apr 1958	Same as above
Prohibition of flights of aircraft armed with atomic or hydrogen weapons over territories of foreign states and open seas (U.S.S.R.)	Nov 1958	Rejected by U.S.
A zone of aerial photography 800 km on both sides of a line dividing NATO and the Warsaw Pact (U.S.S.R.)	Nov 1958	Overtaken by reconnaissance technology
An international supervisory body of NATO, Baghdad Pact, and Warsaw Pact representatives (U.S.S.R./East Europe)	Nov 1958	
Prohibit use of nuclear weapons (Ethiopia)	1960	Rejected by U.S.

See footnotes at end of table, p. 29.

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TABLE 2  
PROPOSED ARMS CONTROL MEASURES TO REDUCE THE RISKS  
OF WAR BY ACCIDENT, MISCALCULATION, AND SURPRISE ATTACK  
(Continued)

MEASURE (ORIGINATOR)	DATE OF ORIGIN	REMARKS
A U.N. aerial surveillance system (U.S.)	May 1960	Overtaken by reconnaissance technology
Prior notification to international control organization of all proposed launchings of space vehicles and missiles and their proposed tracks (U.S.)	Jan 1960	Notification of orbital launches required by "Outer Space Treaty" and 1974 convention. Notification of missile launches beyond national territory in direction of other party in 1971 "Accidents Measures Agreement"
Exchange of observers on a reciprocal basis at agreed foreign and domestic military bases (including those in U.S. and U.S.S.R.) (U.S.)	Jan 1960	Potential avenue for future negotiations
A U.N. surveillance body for crisis investigation (U.S.)	Sep 1960	
Advance notification of military movements and maneuvers (U.S.)	Sep 1961 Dec 1962	"Maneuvers" covered by CSCE voluntary measures
o In the proximity of frontiers		Voluntary
o Of naval surface forces		Voluntary
o Of aircraft departing from usual pattern or in proximity to frontiers		Not covered
o Of ballistic missile launches in unusual numbers in limited time periods		Not covered
o Notification through specified channels		CSCE notifications through normal diplomatic channels
o Notification to or from		
—Individual states		
—Military headquarters of groups of states		
—Both military headquarters of groups of states and individual states		
—A "clearinghouse" among participating states		

See footnotes at end of table, p. 29.

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TABLE 2  
PROPOSED ARMS CONTROL MEASURES TO REDUCE THE RISKS  
OF WAR BY ACCIDENT, MISCALCULATION, AND SURPRISE ATTACK  
(Continued)

MEASURE (ORIGINATOR)	DATE OF ORIGIN	REMARKS
Exchange of military missions between central military headquarters of states or groups of states to (U.S.) o Exchange information o Observe military activities o Consult about military matters of common concern o Clarify ambiguous situations o Report to, and exchange views with, sponsoring state or group of states	Sep 1961, Dec 1962 <sup>+</sup>	Possible avenue for future negotiations; e.g., MBFR
International commission on reduction of the risk of war to (U.S.) o Consider implications of weapons and techniques of warfare o Consider data on unilateral measures o Identify specific technical risks o Clarify supposed risks o Propose additional measures	Sep 1961, Dec 1962 <sup>+</sup>	Standing Consultative Commission serves this function but limited to SALT, Accidents Measures, and Hot Line implementation. Separate forum with broader mandate a possible avenue for future negotiation
Renunciation of first use of nuclear weapons (U.S.S.R.)	Sep 1961	Rejected by U.S.
Incorporate special design features to prevent an accidental nuclear explosion (U.S.)	Dec 1962	Obligation implied by Accidents Measures Agreement, Art. I
Develop weapons and employment techniques to facilitate deferred military response (U.S.)	Dec 1962	Same as above
Exercise effective command and control to limit possibility of unauthorized use of nuclear weapons (U.S.)	Dec 1962	Same as above
Establish direct communications links for use during military emergencies (U.S.)	Dec 1962	1963 Hot Line Agreement
Limit patrol areas of missile-carrying submarines (U.S.S.R.)	Apr 1968	Rejected by U.S.
Notification in event of accidental or unexplained nuclear incident (U.S.)	1970	Art. II, Accidents Measures Agreement

See footnotes at end of table, p. 29.

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TABLE 2  
PROPOSED ARMS CONTROL MEASURES TO REDUCE THE RISKS  
OF WAR BY ACCIDENT, MISCALCULATION, AND SURPRISE ATTACK  
(Continued)

MEASURE (ORIGINATOR)	DATE OF ORIGIN	REMARKS
Notification of unidentified objects or interference on warning systems (U.S.)	1970	Art. III, Accidents Measures Agreement
Prohibit military maneuvers in border areas (Yugoslavia?)*	1970?	
Advance notification of mobilization exercises (Yugoslavia...)	1970?	
Prohibition of large fortifications in border areas (Yugoslavia?)*	1970?	
Inform or request information to avert risk of two-party nuclear war (U.S.S.R.)	Mar 1971	Art. IV, Agreement on Prevention of Nuclear War
Refrain from interference with "national technical means of verification" (U.S.?)	1971?	Art. XII, ABM Treaty Art. V, SALT Interim Agreement
Refrain from concealment that impedes verification of agreements by "national technical means" (U.S.?)	1971?	Art. XII, ABM Treaty Art. V, SALT Interim Agreement
Obligatory consultation to avert risk of nuclear war involving third country (U.S.S.R.)	May 1972	Art. IV, Agreement on Prevention of Nuclear War

\*Element of the so-called Norstad Plan discussed among Western nations

\*Elaborated in 12 Dec 1962 ENDC Working Papers

\*Proposals preliminary to CSCE

an essential asset of the State. Western attempts to penetrate the secrecy that masked Soviet intentions met with a charge that the United States was attempting to legitimize espionage. Both aerial inspection and effective ground observation proposals were essentially rejected. They were linked by the Soviets to later stages of comprehensive disarmament plans.

Soviet ground observation proposals were also ineffective in their operational details. Posts would be manned by both nations, but they would be without mobility, under host-country command, and dependent on host-country communications. Significantly, airfields were frequently exempted from observation programs. In effect, observers would not be able either to observe or to report. Operationally, the Soviets also viewed aerial reconnaissance as being under control of the observed country. Their general position was that the danger of war must be controlled by the elimination of arms, especially nuclear arms. For its part, the United States rejected numerous proposals because they worked to a Soviet military advantage (limitations on nuclear-armed aircraft or naval movements, for example). Other proposals were rejected on the political grounds that they might perpetuate the divisions of Germany and Central Europe or that they might dignify the Warsaw Treaty Organization.

#### B. Measures to Reduce the Risk of Accidental War

In 1960, in face of the frustration of general disarmament negotiations, attention shifted "urgently, to try to create a more stable military environment that will curtail the risk of war and permit reduction in armed forces and armaments."<sup>39</sup> The stability theme echoed strategic thinking, which was beginning to reflect concepts of a "stable deterrent" and of situations that might create instability in crises. In particular, a concern about accidental war came to be a part of the literature of arms control.<sup>40</sup>

Preparation for the 1962 Eighteen-Nation Disarmament Committee (ENDC) discussions of general and complete disarmament led to a restructured U.S. surprise attack position that was more modest but more negotiable. The proposals avoided Soviet paranoia about inspection and potential division (in the West) over issues of zonal inspection and featured complementary unilateral actions. The U.S. Declaration on Disarmament of September 25, 1961, cited the following measures in the context of the first of a three-stage program for general disarmament.<sup>41</sup>

- o Advanced Notification of Military Movements and Maneuvers: "States shall give advance notification to the participating states and to the International Disarmament Organization (IDO) of major military movements and maneuvers, on a scale as may be agreed, which might give rise to misinterpretation or cause alarm and induce counter-measures. The notification shall include the geographic areas to be used and the nature, scale, and time span of the event."
- o Observation Posts: "There shall be established observation posts at such locations as major ports, railway centers, motor highways, and air bases to report on concentrations and movements of military forces."
- o Additional Observation Arrangements: "There shall also be established such additional inspection arrangements to reduce the danger of surprise attack as may be agreed."
- o International Commission on Reduction of the Risk of Nuclear War: "An international commission shall be established immediately within the IDO to examine and make recommendations on the possibility of further measures to reduce the risks of nuclear war by accident, miscalculation, or failure of communication."

Later, the U.S. Treaty Outline of April 18, 1962<sup>42</sup> added:

- o Exchange of Military Missions: "Specified Parties to the Treaty would undertake the exchange of military missions between states or groups of states in order to improve communications and understanding between them. Specific arrangements respecting such exchanges would be agreed."
- o Communications Between Heads of Government: "Specified Parties to the Treaty would agree to the establishment of rapid and reliable communications among their heads of government and with the Secretary-General of the United Nations. Specific arrangements in this regard would be subject to agreement among the Parties concerned and between such Parties and the Secretary-General."

An agreement in principle on the latter two measures was established when similar wording was inserted in July 1962 modifications to the Soviet Draft Treaty on General and Complete Disarmament.<sup>43</sup> The Soviet modifications, however, were unacceptable because they also included provisions to ban movements or maneuvers by two or more states. This provision, coupled with the Soviet insistence on the elimination of foreign bases would have emasculated NATO. The U.S. would "... not allow NATO to be fragmented into fifteen isolated military compartments, forbidden from joint activity and cooperation, and separated into split North American and European districts."<sup>44</sup>

The Cuban Missile crisis of October 1962 underscored the necessity of reliable communications during crises. Secretary of State Rusk, on the day the Cuba quarantine was lifted, asserted that, "rapid communication was instrumental in this case in averting a possible war. But even more rapid communications would have been desirable."<sup>45</sup> On December 12, 1962, President Kennedy endorsed the idea of a direct Moscow-Washington teletype link.<sup>46</sup> On that same date, the United States presented a working paper to the ENDC that elaborated U.S. thinking on the "Reduction of the Risk of War through Accident, Miscalculation, or Failure of Communication."<sup>47</sup> The U.S. proposals outlined in the Table 2 chronology included a detailed concept for "Communications on Military Emergencies." The paper stated: "Awareness of the availability of such [direct] communications links could itself prove reassuring, and, should the need to use them arise, they could be employed with a minimum of the uncertainty that is characteristic of periods of tension."<sup>48</sup> The paper went on to say:

In view of the essentially experimental and untested character of such arrangements, it would not appear necessary or desirable to attempt to specify in advance all types of situations in which a special communications link might be utilized. However, there should be a common understanding of the general purpose of the link and of the broad circumstances under which it might be most useful. In the view of the United States, such a link should, as a general matter, be reserved for emergency use; that is to say, for example, that it might be reserved for communications concerning a sudden change in the military situation or the emergence of a military crisis which might appear directly to threaten the security of either

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of the states involved and where such developments were taking place at a rate which appeared to preclude the use of normal consultative procedures. Effectiveness of the link should not be degraded through use for other matters.<sup>49</sup>

On June 20, 1963, a memorandum of understanding was initialed in Geneva,<sup>50</sup> and in August the Moscow-Washington Direct Communication Link (DCL) or "Hot Line" became operational.

Through the rest of the 1960s, the arms control agenda was crowded with a number of specific agreements—the "Limited Test Ban," the "Outer Space Treaty," the "Treaty Prohibiting Nuclear Weapons in Latin America," the "Non-Proliferation Treaty," and the "Seabed Arms Control Treaty"—which attempted to prevent the spread of nuclear weapons to environments or nations where they had not been present. Late in the decade, serious negotiations began on the more difficult tasks of limiting existing weapons.

The issue of accidental war, however, was not swept from the arms control agenda in the movement toward substantive limitations. Speaking before the Supreme Soviet, July 9, 1969, on arms control issues, Soviet Foreign Minister Gromyko elaborated his continued concern:

There also is another side of the matter that cannot be ignored by a state's long-term policy. It is linked to a considerable extent with the fact that the systems of arms control and direction are becoming increasingly autonomous, if one can put it this way, from the people who create them. Human capacity to hear and see are incapable of reacting to modern speeds. The human brain is no longer capable of assessing at sufficient speed the results of the multitude of instruments. The decisions adopted by man depend in the last analysis upon the conclusions provided by computers. Governments must do everything possible to be able to determine the development of events and not to find themselves in the role of captives of events.<sup>51</sup>

Significantly, Gromyko's speech signaled Moscow's serious intent to begin the Strategic Arms Limitation Talks (SALT).<sup>52</sup>

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The Soviets raised the question of accidental war during preliminary SALT discussions. They suggested three categories of measures:

- o Safeguards against unauthorized launches
- o Ways to deal with provocative attacks by third countries
- o Restricting submarine patrols and flights of nuclear-armed aircraft.

The United States rejected the latter two categories as outside the scope of bilateral strategic arms limitations negotiations but accepted the first as an agenda item. The United States proposed three measures related to the exchange of information and notification:

- o Notification in the event of an unauthorized, accidental, or other unexplained nuclear incident
- o Notification in the event of detection of unidentified objects or signs of interference with warning systems or related communications facilities
- o Advance notification of missile launches extending outside national territory in the direction of the other party.

Further, the United States proposed an effort to improve the Hot Line. At the fourth SALT session (March 15-May 28, 1971) working groups were set up to deal with accidents measures and hot line improvement. A Soviet draft of March 23, 1971, used as a basis for work of the "Accidents Measures" group, included the three measures suggested by the United States and added obligations to pursue organizational and technical measures to prevent unauthorized use of nuclear weapons, to render harmless any weapons involved in incidents, to inform or request information to avert the risk of nuclear war, to continue negotiations, and to consult on questions of compliance. A general tightening of the draft language ensued, with additional issues being raised on questions of separability from the basic SALT agreements, accession by other nuclear powers, and duration. It is of particular interest, however, that a general commitment to inform or request

information (Article 5 of the 1971 Agreement) was limited at U.S. insistence to "other situations involving unexplained nuclear incidents." The agreement on "Measures to Reduce the Risk of Outbreak of Nuclear War Between the United States and the U.S.S.R." was initialed on August 20, 1971; signature took place on September 30, 1971.<sup>53</sup> An agreement to improve the Direct Communication Link also was signed on September 30, 1971.<sup>54</sup>

As another spinoff of SALT negotiations, an "Agreement on the Prevention of Incidents On and Over the High Seas" was signed the next year at the 1972 Moscow Summit. It provided, in addition to standard "rules of the road" and the 1958 Geneva Convention on the High Seas, a set of rules to cover potential interactions between ships of the two parties. Rules of conduct covered:<sup>55</sup>

- o Ships engaged in surveillance of other ships
- o Ships engaged in launching or recovering aircraft
- o Notification of hazards to navigation or to aircraft in flight
- o Exchange of information on collisions, damages, and incidents.

A protocol added in 1973 also prohibited simulated attacks on nonmilitary ships of the other party or the hazardous dropping of any objects near such ships.<sup>56</sup>

#### C Codes of Behavior

Contrasted with the detail of the "Accidents Measures," "Hot Line," and the "Incidents at Sea" Agreements, the 1972 summit also produced a general "Declaration of Principles of Relations," which asserted:

The U.S.A. and the U.S.S.R. attach major importance to preventing the development of situations capable of causing a dangerous exacerbation of their relations. Therefore, they will do their utmost to avoid military confrontations and to prevent the outbreak of nuclear war. They will always exercise restraint in their mutual relations and will be prepared to negotiate and settle differences by peaceful means. Discussions and negotiations on

outstanding issues will be conducted in a spirit of reciprocity, mutual accommodation and mutual benefit.

Both sides recognize that efforts to obtain unilateral advantage at the expense of the other, directly or indirectly, are inconsistent with these objectives. The prerequisites for maintaining and strengthening peaceful relations between the U.S.A. and the U.S.S.R. are the recognition of the security interests of the Parties based on the principle of equality and the renunciation of the use or threat of force.

Further:

The U.S.A. and the U.S.S.R. have a special responsibility, as do other countries which are permanent members of the United Nations Security Council, to do everything in their power so that conflicts or situations will not arise which would serve to increase international tensions. Accordingly, they will seek to promote conditions in which all countries will live in peace and security and will not be subject to outside interference in their internal affairs.<sup>57</sup>

The Moscow Summit, however, left unresolved the issue of "provocative attacks" by third countries: neither was the "Accidents Measures" agreement expanded to include the general obligation to exchange information on unspecified risks of nuclear war. These issues had been resisted by the United States during SALT I but were brought up again at the 1972 summit. At the Washington Summit of 1973, however, a renunciation of the use or threat of force, the obligation to consult together in order to avert the risk of nuclear war involving other countries, and an obligation to prevent situations capable of dangerous exacerbation of relations were formalized in a bilateral "Agreement on Prevention of Nuclear War."<sup>58</sup> Dr. Kissinger, then National Security Adviser to the President, indicated that there was nothing self-enforcing about the document and resisted relating specific articles to particular events. He noted, however, that "the movement into sovereign countries of large forces would not be in our view consistent with the spirit of this agreement...." and that such an agreement might have prevented the Cuban missile crisis and several Berlin crises.<sup>60</sup>

The Conference on Security and Cooperation in Europe (CSCE) meeting between July 3, 1973, and August 1, 1975, discussed "numerous measures to reduce the dangers of armed conflict and of misunderstanding or miscalculation of military activities which could give rise to apprehension, particularly in a situation where the participating States lack clear and timely information about the nature of such activities."<sup>61</sup> A special military committee devoted some 246 formal meetings to developing a set of measures, which "deriving from political decision [rest] upon a voluntary basis."<sup>62</sup> These "confidence-building" measures provided that "participating states will notify their major military maneuvers to all other participating States through usual diplomatic channels in accordance with the following provisions:"<sup>63</sup>

- o Major military maneuvers exceeding 25,000 troops on territory in Europe of participating State or in sea area or air space adjoining Europe
- o Notification 21 days in advance or earliest possible opportunity
- o Notification to include:
  - types and strength of forces
  - area of maneuver
  - "timeframe" of maneuver
  - if possible, additional information
- o May notify other (lesser-scale) maneuvers."

In addition States will, if they choose, invite observers to military maneuvers; may, at their own discretion, give notification of major military movements; will promote exchanges among military personnel; and will provide information to and consider interests of other participating States with regard to ongoing negotiations. The distinction between maneuvers and movements is of particular interest. While the document in its entirety is not binding, notification of military movements is less binding than notification of major maneuvers. Needless to say, redeployment of forces may be of greater concern than routine exercises. Further, "maneuver" remains ill-defined. Some observers have noted that with an incomplete notification requirement and no obligatory observation system, detection of military activities that have not been notified gives rise to a greater risk of

misperception and overreaction than if no notifications requirement existed at all.

Currently, negotiations are underway on Mutual and Balanced Force Reductions (MBFR) in Europe. The negotiations have already involved exchanges of information on conventional forces of NATO and the Warsaw Pact that may serve stability, but the nature of a final agreement appears uncertain. The negotiations, particularly those associated with verification procedures, could offer an opportunity to reinforce the CSCE confidence-building measures and to provide a monitoring capability to accompany the warning function of notifications.

#### D. Observations

A review of measures discussed in previous paragraphs allows a number of observations that are relevant for the future. Such observations pertain to the impact of technology, changes in European politics, unlikely measures, the possible situations and events that the measures responded to, and what has been accomplished.

##### 1. Impact of Technology

Technology in the form of reconnaissance satellites has lessened somewhat the necessity for "open-skies" type proposals. "National technical means of verification," which support an understanding of strategic forces, became protected assets in the 1972 SALT agreements. Further, "blueprints of military establishments" have been exchanged to a certain extent in both SALT and MBFR negotiations (although critics point out that the exchange is one-sided as data flow from the U.S. with little in return from the U.S.S.R.)<sup>64</sup> Nevertheless, it remains to be seen whether technology can support the more demanding tasks of monitoring conventional forces under various MBFR proposals. Ground control posts or mobile observation teams thus remain an option for verification, warning, and reducing the risk of war.

##### 2. Changes in Europe

The CSCE accentuated a process of change in Europe that has been marked by the German Ostpolitik, various treaties of friendship and cooperation, and the Four-Power Berlin Agreements of 1971. As recent "confidence-building" measures indicate, negotiations are now less affected by concerns

about formalizing territorial divisions in Germany or Europe that frustrated earlier attempts to institute notification and observation procedures. The value of such procedures is acknowledged by the CSCE Final Act; however, that much remains to be done is evident in the voluntary and partial nature of that agreement. Procedures for verifying a future MBFR regime may offer an opportunity to strengthen the CSCE notification activities and to provide a complementary system for observation and inspection.

### 3. Improbable Measures

The history of efforts to reduce the risk of war also reveals a number of measures that appear unlikely to meet with agreement. Among these are limits on operations of strategic forces, prohibitions of joint exercises, and renunciation of first use of nuclear weapons. The American position since the mid-1950s has been that these proposals work to the disadvantage of a Western collective defense and reduce the deterrent to larger Warsaw Pact conventional forces. The basic position on first use has been restated as recently as December 9, 1976, by Secretary of State Kissinger before the NATO Council of Ministers.<sup>65</sup>

### 4. Situations and Events Contemplated by Previous Proposals

Previously, proposed measures to reduce the risk of war have addressed such anticipated situations and events as surprise strategic attack, failure of communications, failure of control over nuclear weapons, attacks by third countries, interference with national technical means of verification and missile warning systems, operational movements of strategic forces, incidents at sea, and the misinterpretation of conventional military force movements, particularly in Europe. Despite obligations not to interfere with "national technical means of verification" codified in SALT agreements and the prohibition of nuclear weapons in orbit contained in the "Outer Space Treaty," previous negotiations have not addressed the risks of war inherent in a war in space waged with such conventionally armed weapons as are now being developed and/or tested by both the Soviet Union and the United States.<sup>66</sup>

What Has Been Done: Aside from those measures that appear to have been overtaken by technology, those that have been agreed to in part, and those that seem to be less than serious arms control proposals, a large number of measures

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have been agreed upon in the "Hot Line," "Accidents Measures," "Incidents at Sea," and the "Prevention of Nuclear War" instruments. Possibly the most important achievement is the U.S.-U.S.S.R. shared understanding, implicit in the "Hot Line Agreement" and explicit in the "Agreement on Prevention of Nuclear War," that there is an obligation on the part of the two Parties to maintain communication despite confrontation. While much is left to the initiative and style of each government, there appears to be a common understanding of the necessity for special caution to reduce the hazards of precipitous action. The effect of agreements can be seen to establish and confirm the institutions of bilateral crisis control.

## IV. FUTURE ENVIRONMENTS

In contrast to Sections II and III, which concentrate on past crisis situations and previously proposed measures, this section is an overview of the characteristics of our future international environment. Such perspective is one of the important prerequisites in any search into concepts of risk of nuclear war. Two primary source areas are investigated and reviewed: future contexts that describe a coherent and plausible view of the international environment in 10 to 15 years and political-military crisis scenarios that explore what might conceivably occur. Combined, the two approaches complement each other and contribute to the comprehension of important influences that are likely to dominate our international environment. Additionally, they can provide insight into those international crisis situations that could introduce a risk of war between the superpowers.

## A. Future Contexts

Future contexts of the international environment in the next 10 to 15 years reflect a world of relative political-military-economic uncertainties, increased interdependence among nations, continued threat of military force as a basic instrument in international politics, and continued U.S.-U.S.S.R. competition. From a review of such contexts, we can distinguish important influences that are likely to exert a significant impact in the near-term international arena—especially aspects regarding the relative positions and responsibilities of the two principal participants, the United States and the U.S.S.R.<sup>67, 68, 69</sup>

## 1. Important Influences

Emphasis in the following discussion is on the power held by the two superpowers, the potential impact of such national power on world events, the superpowers' continued rivalry and testing of each other, and their strong political-military-economic ties with strategic geographic areas. Other important aspects include, for example, proliferation of armaments to third countries, the possibility of raw material dependency being used as a political lever, and the troublesome problem of an economic recession for the industrialized countries in North America and Western Europe.

a. Diffusion of Superpower Political-Military-Economic Power. Both superpowers will maintain superior forces, but they may not be able to use them to ensure order in the rest of the world. There will be a fragmented power structure, and third countries will become increasingly important although still less dynamic than the superpowers and highly dependent upon the superpowers for economic and military stability.

b. Rivalry Between the Superpowers. Both parties will continue to engage in probing operations, but some form of detente is likely to remain a central feature of their relations and the international scene. Direct challenges to the other's power and direct involvement in vital geographic areas of strategic importance are not likely. However, peripheral areas can be the scene for testing the other's willingness to engage in provocative military actions. Also, we can expect a readiness on the part of both parties to exploit a crisis when it serves their interests and to respond to opportunities to broaden their influence. The U.S.S.R. will continue to develop and modernize its military strength (strategic nuclear and general purpose forces, especially naval) and rely on it for security, rather than on treaty commitments or negotiations. The U.S.S.R. is likely to experiment with the political utility of the recently acquired superpower status. Nevertheless, the U.S.S.R. will maintain limited cooperation with the West, e.g., a willingness to discuss sensitive issues of national security and to seek economic and technological assistance.\*

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\*Marshall D. Shulman, in an article in the October 1973 issue of Foreign Affairs, analyzes U.S.-U.S.S.R. coexistence and distinguishes seven planes of relationship between the two great powers: (1) strategic-military competition (not yet stabilized); (2) conventional military competition (a real danger, no codification of rules for use of conventional forces in areas of strategic importance, and political instability); (3) political competition (some degree of restraint); (4) economic competition and cooperation (the use of trade and economic assistance as a source of political influence, particularly in areas rich in energy resources); (5) ideological conflict (Soviets will intensify); (6) cultural relations (increasing interpenetration of each other's societies); and (7) functional cooperation (both recognize some degree of commonality of interests; e.g., environmental protection, medical science, public health, etc.).<sup>70</sup>

Both parties may increasingly shift the capability to fight local conflicts to allies and friendly countries with the superpowers supplying equipment and logistical support.

c. Spread of Military Armaments. The horizontal proliferation of nuclear weapons to third countries and developing countries appears inevitable; use (or accidental detonation) of such weapons by these countries in local or regional armed conflicts is a possibility. Nuclear blackmail by terrorist groups, whose behavior may be entirely unpredictable, is also a very real danger. The conventional arms races by developing countries will continue with the purchase of modern military hardware and weapon systems from the major industrial powers. On a regional basis, some countries will gain significant military strength.

d. Competition for Access to Vital Raw Materials. The expected increased competition by the major economic/industrial powers for access to raw materials of the developing, weaker countries, coupled with the possibility of raw material dependency being used as a political lever is likely to cause serious and strained relations among consuming nations as well as between the suppliers and consumers. Such situations can be complicated if the supplier is dependent on the major powers for food, modern equipment, technology and for stable world conditions in which to grow. Also, competition for exclusive national economic exploitation of ocean resources, especially within claimed zones of 200 nautical miles off coasts, is a potential trouble area.

e. U.S.S.R. Domination of Eastern Europe. This domination will continue through the presence of military forces. However, there may be a general diminishing of bloc cohesiveness, with efforts by the bloc countries to become more independent, both politically and economically. The U.S.S.R. is especially apprehensive about future relations with the People's Republic of China (PRC), as well as about actions by other nearby countries, such as West Germany and Japan with their modern and strong economies and dynamic societies. The U.S.S.R. will be especially sensitive to the deployment by the United States of forces into vital areas and U.S. involvement in the internal affairs of Eastern European countries.

f. U.S. Ties With World Areas. The United States' strong ties with Western Europe will continue. The maintenance of a stable, secure, and confident Western Europe will be vital to U.S. security. Also, the United States will continue to

work for a settlement of the Arab-Israeli conflict to ensure the supply of oil, to enhance relations with key nations there, and to limit U.S.S.R. influence in the Middle East. The United States will also seek to build constructive relations with nations in the Persian Gulf. Shipping lanes via the Indian Ocean route from the Persian Gulf to Japan and to the United States will be maintained. The United States will continue to attempt to normalize relations in Asia with the PRC and, at the same time, maintain a protective security umbrella for Japan. Security on the Korean peninsula will remain an important commitment. Only minimal and selective U.S. security assistance is likely to be used in Africa south of the Sahara to meet political conflict. Outside of the Western Hemisphere, the United States will maintain strong military forces in Central Europe and in Northeast Asia;<sup>71</sup> both areas are important to the economic well-being of the United States.

g. Economic Recession. An economic recession and the possible ensuing domestic/international political crises involving the democratic industrialized societies in North America, Western Europe, and Japan are expected to continue to be troublesome problems. This is a highly uncertain and complex area involving a great variety of economic and social factors that can dangerously increase political tensions in economically unstable countries.

## 2. Focal Points for Future International Crises

From the preceding discussion of influences on the future international environment, we can extract some of the more apparent focal points that could initiate military crises that would tax decisionmakers, equipment, and procedures that are a part of the crisis management apparatus. Table 3 illustrates the focal points and some of the associated crisis events. As a group, they reflect many of the causes leading to past armed conflicts as well as the more recent crisis situations discussed in Section II; for example, military intervention, penetration of spheres of influence, domestic difficulties, and embargo of vital resources.

TABLE 3  
FOCAL POINTS FOR INITIATION OF FUTURE CRISES

- o Military or political intervention into strategic geographic areas important to superpower
  - U.S. areas include Western Europe, Northeast Asia, and possibly Mideast; Soviet areas are Eastern Europe and PRC. Military intervention whether deliberate or accidental is very dangerous—especially if carried out by other superpower or its allies.
- o Acquisition of nuclear weapons by third countries, possibly including superpower allies
  - Possession of nuclear weapons by third countries, especially those adjacent to superpower or vital strategic geographic areas, is extremely dangerous; also, possession increases the risk of local or regional nuclear conflicts.
- o Weakening of superpower alliances with allies or friendly countries
  - Possible loss of superpower political-economic power may lead to internal upheaval in friendly countries; also could cause such countries to accelerate their own military defense capabilities.
- o Blockade of key commercial shipping lanes
  - Major industrial nations are highly dependent on ocean transport for receipt of raw materials and delivery of manufactured products; attempts to disrupt or restrict commercial shipping lanes would be viewed with international alarm.
- o Rise of new "regional" military powers
  - Purchase of conventional military hardware (and possible acquisition of a nuclear weapon capability) by a dominant regional country, coupled with political-economic rebellion or conflicts within the region, could produce unstable situations.

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TABLE 3  
FOCAL POINTS FOR INITIATION OF FUTURE CRISES (Continued)

- o Embargo on vital raw materials
  - Acting to restrict or cut off for economic, political, or military reasons the availability of such materials to the important producers/consumers may result in major economic-military counteractions that could generate serious international situation(s).

## B. Scenarios

Scenarios can be used to provide a detailed "plot outline" of a conceivable future event or of a series of events. For the most part, they are designed for a specific purpose; for example, to analyze military tactics and strategies in given conflict situations. The scenarios explore what might occur; however, there is no claim of predictive value. A review of various political-military scenarios that describe the step-by-step development of crises, the escalation of the military situations, or the conduct of armed conflicts, provides ideas regarding the kinds of situations that could introduce an increase in the risk of nuclear war.

We have reviewed a variety of scenarios that pertain to political crises, conflict situations, proliferation of nuclear weapons, and possible use of nuclear weapons. Many of the scenarios dealt with conflict situations and related military operations in strategic geographic areas important to the superpowers. For example, included were scenarios on political crises of European nations with superpower involvement, NATO conventional war, superpower military confrontations in Europe, blockade of important ocean shipping lanes, various Korean armed conflict situations, and superpower penetration into adjacent border areas to acquire territory for military bases. Often stressed in the scenarios were risks of conflict escalation as well as a party's miscalculation of the opponent's perceptions and actions.

To improve the utility of a scenario, realistic assumptions were used in plotting out the situations. This is illustrated by a series of scenarios on the possible use of nuclear weapons in the Middle East structured by Robert J. Pranger and Dale R. Tabteiner.<sup>72</sup> In an attempt to control the element of fantasy, they used realistic assumptions based on scenarios of analogous situations (recent military actions by nations with power comparable to states in the Middle East) and kept the recent Middle East experience in mind. Three scenarios were developed to stop an enemy's possessing superior conventional military power: (1) a survival scenario (last-ditch effort to save one's territorial integrity); (2) an interdiction scenario (a need to stop or interdict an invasion quickly); and (3) a preemptive scenario (a need to head off a devastating blow). All three scenarios considered the use of nuclear weapons for defensive purposes.

A somewhat more speculative point of view on the possible use of nuclear weapons is provided by Lewis A. Dunn and Herman Kahn in their recent report, "Trends in Nuclear Proliferation, 1975-1995."<sup>73</sup> The report provides an analysis of the global dimensions of future nuclear proliferation, including an examination of categories of problems and dangers (i.e., situations and events) that could emerge if proliferation continued unchecked. These are listed in Table 4 and range from nuclear war to bizarre events,\* which are difficult to foresee in advance, or which if seriously suggested, would be rejected. Through the use of short scenario sketches, each of the situations listed under the six major categories is discussed by the authors, and projections are developed in terms of possible Nth country's (or various active groups') use or threatened use of nuclear weapons.

Also contained in the report is a listing of proliferation problems that conceivably could pose a direct threat to either the United States or the U.S.S.R. A direct threat is defined as involving the risk of use of nuclear weapons within the central homeland; a Soviet-American confrontation abroad; erosion of core societal, political, and social values due to a failure to protect against a world perceived to be hostile and dangerous; or high economic costs related to increased defense spending. Such a distinction of direct threats is especially interesting in that it highlights particular situations that, because of proliferation, may be of principal future concern to the two superpowers. Table 5 lists problems that could pose a threat to each of the superpowers.

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\*For example: detonation of a nuclear weapon by a romantic to leave his mark on history, by a pacifist to bring the world to its senses, by someone who just wants to see what it would be like, or by a small country for the purpose of blackmailing the industrialized world.

TABLE 4  
PROBLEMS AND RISKS OF PROLIFERATION

- o Use of Nuclear Weapons
  - Inadvertent or unintended nuclear war
  - Catalytic nuclear war
  - Anonymous nuclear attack
  - Terrorist use of nuclear weapons
  - Nuclear blitzkriegs or defense against invasion
  - Calculated nuclear first strike
  - Preventive nuclear war
  - Small-power nuclear wars
  - Conventionalization of nuclear weapons
- o Increased Global Competitiveness and Nastiness
  - Nuclear blackmail and "local Munichs"
  - Threats to "go nuclear"
  - Exacerbation or reinvigoration of old disputes
  - Increased regional arms racing
  - Increased superpower arms racing
  - Superpower confrontations in Nth country disputes
  - Undisciplined dissemination of nuclear weapons
- o Intensification of Internal Political Conflicts
  - Nuclear terrorism
  - Nuclear coups d'etat, nuclear civil wars, and nuclear separatist struggles
- o Corrosion of Political Authority and Legitimacy
  - Authoritarian global political shift
  - Loss of governmental legitimacy
- o Economic Costs
  - Budgetary costs
  - Non-budgetary economic costs of adjusting to threat of nuclear terrorism
- o Bizarre Events

Source: Reference 73.

TABLE 5  
 PROBLEMS POSING A DIRECT  
 THREAT TO THE UNITED STATES OR TO THE SOVIET UNION  
 (Resulting From Risk of Future  
 Proliferation of Nuclear Weapons)

<u>United States</u>	<u>Soviet Union</u>
Few Nth country strategic forces eventually targeted on United States	At least several Nth country strategic forces targeted on Soviet Union
Anonymous nuclear attack	---
Terrorist use	---
Conventionalization of nuclear weapons	Conventionalization of nuclear weapons
Increased superpower arms racing	Increased superpower arms racing
Superpower confrontations arising from Nth country disputes	Superpower confrontations arising from Nth country disputes
Undisciplined dissemination of nuclear weapons	---
Authoritarian political shift	---
Loss of governmental legitimacy	---
Budgetary and nonbudgetary economic costs related to defense	Budgetary costs related to defense
Bizarre events	Bizarre events

Source: Reference 73

Other studies reviewed contain similar scenarios. They examined a variety of potentially dangerous crisis situations related to the proliferation of nuclear weapons and the associated outbreak of local armed conflict. However, as noted earlier, scenarios involving other types of conflict situations were also explored. In addition, the following type situations would involve increased risk of war between the superpowers.

- o Military confrontations/engagements between allies of superpowers
- o Collapse or threatened collapse of the political authority of an ally of a superpower
- o Superpower intervention into local wars, including introduction of nuclear weapons
- o Superpower intervention into local nuclear wars to confine, stop, maintain truce, or clean up
- o Superpower loss of control/ownership of its nuclear weapons located in an allied country or in other countries
- o Interference with superpower national command, control, and strategic communications
- o Local armed conflicts or coups d'etat where control of indigenous nuclear weapons is at risk
- o Major expansion/acceleration of third country nuclear armament program
- o Superpower conventional space warfare.

## V. CRISIS EVENTS—IDENTIFICATION AND ASSESSMENT

Sections II, III, and IV surveyed recent international crises that were of concern to both superpowers, military and political situations and events that previous negotiations responded to, and possible focal points for development of future crisis situations. In this section, we identify and review broad categories of crisis events, discuss their apparent distinguishing characteristics, and subjectively assess each of the categories as to coverage provided by the two bilateral (U.S.-U.S.S.R.) agreements. The purpose of the identification and review is to bring into focus and to consolidate particular crisis events that appear to have a potential for increasing the risk of a superpower war; i.e., situations where military actions become thinkable or, possibly, required. The purpose of the assessment is to ascertain whether the categories are possible "new areas" (i.e., not covered by current agreements). Where questions occur on coverage—several of the articles in the agreements can be rather broadly interpreted—the questionable status is so identified.

An important question regarding the identification of "new" categories is whether they have been (or are being) examined in the arms control communities. Where appropriate, such status is noted, especially for several categories tagged and in turn discussed as possible "worry areas."

We used an organizational framework to screen the events examined in earlier sections, to facilitate identification and discussion of the categories of crisis events considered in this report and their assessment. Focusing on the superpowers' involvement and control over such crisis events, the framework consists of two major divisions with associated subheadings:

- o Direct Control: One (or both) of the superpowers is (are) directly involved and therefore has (have) the option to exercise some degree of control over the situation; here, an apparent direct danger of a superpower war exists.
- Military Forces Activities: Events where superpower strategic nuclear, theater nuclear, or general purpose military forces are involved in mobilization, alerts, deployments, armed entry, blockades, etc.

- Military Systems: Events having to do with or affecting a particular supporting, nuclear-capable, or conventional weapon system of the military forces.
- Other activities: Political or international acts.
- o Indirect Control: The initiators are most often other countries, allied or unaligned, and, therefore, neither superpower may be able to exercise direct control over the situation; here, the danger of a superpower war appears to stem mainly from the possibility of the superpowers being drawn into a dispute.
- Allied Involvement: political acts, military forces activities, nuclear force expansion, armed conflict, etc.
- Third Country Involvement: (same as above).
- Other activities: political, economic, and military acts.

#### A. Categories of Crisis Events

Using the above framework as a pattern (or model), the various situations and events treated in the exploratory phase of the report (i.e., Sections II, III, and IV) were screened in terms of the crisis characteristics discussed in Section II. For international crises, these are essentially defined in terms of level of threat, timespan for decision(s), and the degree of surprise. Attention was given to events that appeared to present a threat to a superpower's interests; to require decisions regarding type and level of response; to contain an aspect of uncertainty as to the course of events; and to include the potential for escalation, depending on the superpowers' commitments and perceptions.

In discussing each of the groups of crisis events under the two main headings, we focused on their characteristics and, where possible, related forces that could influence superpower decisions and actions.

1. Direct Control

a. Military Forces Activities. The following list presents superpower-initiated military forces activities that would generate military crises requiring difficult and crucial decisions by the opposing superpower:

- o Fully generated alert of superpower strategic forces (including standdown)
- o Threatening deployment of superpower strategic forces
- o Accidental or unauthorized launch of nuclear force missile(s).
- o General mobilization of superpower military forces (including general-purpose forces)
- o Entry of superpower or allied military force into territory of other superpower or ally (including accidental entry)
- o Use or threatened use of nuclear weapons by superpower against a third country.

As a group, these categories of crisis events exhibit several of the crisis characteristics noted in Section II. For example, with the exception of a superpower's use of nuclear weapons against a third country, the events can be perceived as implying a military threat (possibly a near-term nuclear attack on a superpower), a relative short time-span for a superpower's decisions regarding verbal and/or military responses, and most likely considerable uncertainty as to the opponent's future actions. The superpower contemplating a response to such events must assess the status, availability, and control of its own strategic forces.

With the exception of the accidental or unauthorized launch of nuclear force missiles, the events are not likely to be sudden occurrences. More likely, there have been prior warning signals and indications of the possible buildup to the events, especially if they are preceded by or are a part of, e.g., an intense political rivalry and competition in a strategic geographic area considered vital to one of the superpowers. In such a situation, advanced planning procedures and existing communications channels would be available

for the initial crisis management process and for verbal exchanges between the superpowers. However, should the situation become expanded and intensified, the distinct possibility exists that procedures, especially internal procedures, would have to be modified to accelerate the decisionmaking process—as was evident in similar past intense crises involving the two superpowers.

Although use or threatened use of nuclear weapons by a superpower against a third country does not create an immediate threat to the other superpower, such use of nuclear weapons may require the latter to place its strategic nuclear force on alert (especially should the use be unannounced). Considerable uncertainty is likely to exist on the course of near-term events, especially given that the third country possesses nuclear weapons. The possibility exists that the superpower could be drawn into the conflict. Very likely, there would be a sense of urgency to inform the two conflicting parties of its position and intentions.

b. Military Systems. Events in the following group pertain primarily to activities of a superpower's military systems; e.g., nuclear-capable systems and supporting systems that are recognized as a vital part of the superpower's strategic offensive and defensive forces:

- o Overflight of superpower's territory by nuclear-capable weapon delivery vehicles
- o Sabotage of superpower's nuclear weapons or weapon delivery vehicles
- o Unexplained disappearance of superpower's ballistic-missile submarines or nuclear-armed bombers
- o Large-scale interference with superpower's national command/control and strategic communications (including antisatellite activity)
- o Large-scale interference with superpower's vital strategic surveillance and warning systems (including antisatellite activity)

- o Large-scale interference with superpower's (or allies') key theater reconnaissance and command/control systems (including command and control centers)
- o Missile testing outside of superpower's national boundaries (without prior notification to other party)
- o Surprise development and testing of an advanced strategic system by a superpower.

Generally, the events represent apparent hostile activities committed against military systems or activities associated with the operation or test of the systems themselves. In a sense, these might be considered secret crises that would be treated by a national command authority without public acknowledgment—at least during the initial phase of the crisis.

These categories do not appear to imply the same high degree of threat to national values, for example, as was apparent for the superpower military force activities. Nevertheless, with the exception of the last two categories (i.e., missile testing and surprise development testing of an advanced strategic system), they do involve operational military systems that are likely to be a part of superpowers' strategic or theater nuclear forces. Uncertainty regarding purpose would be associated with the occurrence of the events, especially should they be unexplained; that is to say, are the events a precursor of an attack? Thus, there can be a great sense of urgency to determine the cause and reason behind the events, and danger of misperceptions and overreaction would be present—several of the events imply superpower loss of control of nuclear weapons. Although the occurrence of such events may be relatively sudden, they probably would not be entirely unexpected and, thus, could usually be handled by established planning procedures—provided they are not perceived as, or prove to be a precursor of a large nuclear attack.

Surprise development and testing of an advanced strategic system, a somewhat special category, is discussed in parts B and C of this section. The same degree of time urgency is not associated with this category as was for the other events. However, given that it represents a major technological breakthrough, it could be perceived as a threat to a superpower's interests.

c. Other Activities. The remaining categories identified with direct superpower involvement and control are:

- o Sabotage of superpower's nuclear weapon production, storage, and fabrication facilities
- o Large-scale evacuation of superpower's major cities
- o Superpower's intervention in other superpower's sphere of influence
- o Major intervention by superpower in third-country territory, or sphere of influence (including introduction of nuclear weapons into third country)
- o Major arms control violation by superpower.

In contrast to the previous categories, these events, with the possible exception of major arms control violations, do not necessarily involve military forces or operations. They can be considered a somewhat lower level of threat, urgency, and surprise. However, sabotage of a superpower's nuclear weapon production and large-scale evacuation of a superpower's cities do have the element of surprise and might be perceived as precursors of a nuclear attack. Moreover, should such events take place within an ongoing superpower political crisis, there are the obvious dangers of misperceptions and overreaction.

Intervention in the other superpower's sphere of influence has the obvious and well-recognized danger of creating major disruptions in the superpowers' relations. This has been demonstrated in recent similar crises. Superpower intervention in third-country territory, although not involving a military threat to the other superpower, introduces the danger that the other superpower will be drawn in, especially if the third country is located in a strategic geographic area where serious superpower competition exists, a local or regional conflict is underway, or the introduction of superpower nuclear weapons is known or suspected.

Major arms control violations could create a threat by undermining bilateral stability provided by important agreements. Immediate pressures may result, possibly more than diplomacy could handle, and could warrant a response to counter an apparent strategic military threat; e.g., a superpower's

orbiting of nuclear weapons in space or hostile activities against national technical means of verification.

## 2. Indirect Control

a. Allied Involvement. Although superpowers are not viewed as the initiators of the crisis events in this group, they could be significantly affected by the events and possibly be drawn into a local or internal conflict because of long standing political/military commitments to allies. Moreover, as pointed out in the discussion of future rivalry between the superpowers and as emphasized in the discussion of proposals to reduce the risk of war in the earlier portion of the report, certain of the global areas occupied by both superpowers' allies are viewed as strategic geographic areas especially important to the superpowers' national interests, as well as to international stability. As is well known, in one particular geographic theater organized military units (including nuclear weapons) of both superpowers are stationed in relatively close proximity. The occurrence, whether single or sequential, of the following crisis events could create considerable pressure on superpower/ally commitments, as well as on the superpowers' relations.

- o Major internal upheaval in a country allied to a superpower
- o Major change/reversal in superpower alliances
- o General mobilization of military forces by country allied to a superpower
- o Seizure or threatened seizure of superpower nuclear weapons in allied country (or third country) by existing government or dissident group.

These crisis events do not seem to represent a near-term direct military threat to the superpowers, but rather, they signal internal military/political actions or disruptions within an ally that could impact on a superpower's interests. Nevertheless, they do have a definite potential for a superpower's direct military involvement should, e.g., a superpower's organized military units located in the allied country appear threatened, or should extremely unstable conditions within the country dictate a superpower's entry to protect its political interests or to respond to a friendly

government's request for military assistance. Given that the situation be accompanied by major military or civil violence, a quick clarification and response may be required on the part of the superpower to ensure the safety of its military units; to ensure the safety of a friendly government, or of an adjacent country that is friendly to the superpower; or to advise the local government and the other superpower of its position and intentions. Although normal internal and diplomatic procedures would be available, the stress of uncertainty and a superpower's imperfect control over the local actors and events could create unforeseen dangers and situations that are likely to require modifications in crisis management procedures.

The seizure of a superpower's nuclear weapons could be a single-event situation or possibly a part of one of the other events. Regardless, seizure of nuclear weapons (accompanied by possession of codes to unlock the permissive action link, PAL system) is certain to place major pressure on the superpower to recover them as quickly as possible.

b. Third-Country Involvement. A variety of specially significant factors contribute to the unstable conditions in the third world, which in turn could complicate U.S.-U.S.S.R. relations should the superpowers decide to step in and attempt to solve local disputes or conflicts. This is especially true for third-world geographic areas where both superpowers have demonstrated prior support and where both are involved in active and serious competition. As indicated earlier, such factors include the third country's acquisition of armaments (including nuclear weapons); unstable political, economic, and military conditions; intense rivalry between various countries; the rise of new regional powers; and the industrial nations' competition for vital national resources situated in areas of the third world.

Introduced below are crisis events, initiated by third countries, that have the potential to seriously disrupt the superpowers' relations and that generally serve to illustrate, from the superpowers' point of view, the uncontrollable elements in crises.

- o Threatening deployment by third country of military forces against a superpower or allied country
- o Third-country use or threatened use of nuclear weapons against a superpower or allied country

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- o Third-country use or threatened use of nuclear weapons against another third country
- o Seizure or threatened seizure of indigenous nuclear weapons in third country by opposing political group
- o Unexplained nuclear detonation(s) in a country not previously considered to be a nuclear power
- o Major expansion/acceleration of third-country nuclear armament program
- o Large-scale war (nonnuclear) between third countries.

The first two events represent a threat to a superpower's interests and generally would exhibit crisis characteristics and associated dangers similar to those discussed previously. The other listed events do not represent a military threat to the superpowers; however, they can imply local or regional conflicts, disputes, or situations that are likely to create extremely unstable and dangerous conditions with the distinct possibility of drawing in a superpower. This situation appears especially likely should, for example, the third country (or countries) be located within a strategic geographic area of major interest to one or both superpowers; be located in close proximity to the territory of a superpower; have strong ties with a superpower; or be known to possess nuclear weapons. Given a superpower's military intervention into a local war or dispute with the purpose of confining or stopping it or to protect the political existence of a friendly third country, the time span for decisions and military actions would probably be short. Present would be the uncertainty of the third country's response, the possible involvement of the other superpower, and the danger of escalation. Previous local disputes and conflicts (as discussed in Section II) serve to illustrate possible types of threats and military actions by the superpowers. (See part C, Consideration of "Worry Areas" for, additional discussion of the following events: seizure of indigenous nuclear weapons, unexplained nuclear detonation(s), and major expansion/acceleration of nuclear armaments program).

c. Other Activities. The following crisis events are somewhat varied as to possible initiators and degree of threat:

- o Exploitation of nuclear devices or nuclear weapons by any group or third country for political or military purposes
- o Denial of access to superpower-dependent territories
- o Embargo or blockade of a resource vital to a superpower
- o Major internal political/military upheaval in superpower
- o Assassination of superpower head of state or leaders.

These events can, however, generate considerable uncertainty and have significant impact on the superpowers' relations—as demonstrated by some occurrences in the past.

The exploitation of nuclear devices or nuclear weapons by groups for political or military purposes has been widely addressed. Recognized is the associated danger of the threat to the superpowers, the need for urgency in handling the situation, and the uncertainty of the course of events.

Denial of access to a superpower-dependent territory and embargo of a vital resource have been experienced; the significance of such crisis events is not only recognized by superpower national leaders but is perceived by the general public as well. Generally, there would not be the compression of time for decisions, responses, etc., as there would be in the case of a major military threat. Nevertheless, there would be a threat to national interests, lack of control over the local actors, and uncertainty. Further, should no solution(s) be in the offering, a sense of urgency will be manifest. Within such an environment, related incidents could provoke hostile military acts.

The last two categories, major internal upheaval in a superpower and the assassination of superpower head of state, represent dramatic events that might be considered as political, secret crises with an associated high degree of uncertainty and urgency. Until such matters are resolved, questions will persist on the part of the other superpower in regard to the future course of events.

Collectively, the 35 categories of crisis events identified appear to represent situations that, because of possible superpower misinterpretations of associated circumstances, could contribute to increased risk of a superpower nuclear war. Considering the world outlook for the next 10 to 15 years, we believe these to be events that could occur—to some, these estimates may appear to conservative.

#### B. Coverage of the Crisis Event Categories by the 1971 and 1973 Agreements

The 35 categories of events identified in the above discussion are consolidated in Figure 1 according to Direct Control and Indirect Control and associated subheadings. Within this framework, the categories are assessed in terms of apparent coverage provided by the two principal U.S.-U.S.S.R. agreements. As previously discussed, the 1971 "Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War Between the U.S. and the U.S.S.R." encourages information exchanges between the two parties with specific attention to the occurrence of "nuclear incidents;" e.g., accidental, unauthorized, or any other unexplained incident involving a possible detonation of nuclear weapons. (As reflected in Article 2 of the Agreement, this is intended to apply only to nuclear weapons belonging to the two parties.) However Article 5, as written, appears to allow for possible interpretation to extend to nuclear incidents involving other country's weapons or even situations ("incidents") involving nuclear facilities or weapon carriers.

The 1973 American-Soviet Agreement on Prevention of Nuclear War is much more general and appears to be considerably broader in scope regarding bilateral efforts to reduce the danger of nuclear war and the use of nuclear weapons. It has been indicated that the agreement is a general statement of policy. It specifically introduces consideration of other countries' involvement and allows for possible future crises whose precise nature cannot be forecast. It emphasizes the prevention of the development of "situations" capable of causing the outbreak of nuclear war between the United States and the Soviet Union and between either of the parties and other countries. It is not clear whether the prevention of "the development of situations capable of causing a dangerous exacerbation of their relations" was intended to extend to preventing the development of situations in other countries or was intended to apply only to situations developing within the confines and purview of the two superpowers.

**FIGURE 1**  
**EVENT ASSESSMENT**

Category of Crisis Event	U.S.-U.S.S.R. Agreements		Remarks
	1971	1973	
<b>DIRECT CONTROL</b>			
<b>Military Forces Activities</b>			
1. Fully generated alert of ... power strategic forces (including standdown)		•	
2. Threatening deployment of superpower strategic forces		•	
3. Accidental or unauthorized launch of nuclear force missile(s)		•	
4. General mobilization of superpower military forces (including general-purpose forces)	•		
5. Entry of superpower or allied military force into territory of other superpower or ally (including accidental entry)		•	
6. Use or threatened use of nuclear weapons by superpower against third country		•	
<b>Military Systems</b>			
7. Overflight of superpower's territory by nuclear-capable weapon delivery vehicles	•		
8. Sabotage of superpower's nuclear weapons or weapon delivery vehicles		•	
9. Unexplained disappearance of superpower's ballistic-missile submarines or nuclear-armed bombers	(?)		
10. Large-scale interference with superpower's national command/control and strategic communications (including antisatellite activity)	•		Possibly covered by Article 5, 1971 Agreement; also, Article IV, 1973 Agreement, appears to cover Communications related to missile warning system covered by Article 3, 1971 Agreement. Other communications covered by Articles I and IV, 1973 Agreement.
11. Large-scale interference with superpower's vital strategic surveillance and warning systems (including antisatellite activity)	•		Missile warning system communications covered by Article 3, 1971 Agreement; other strategic systems covered by Articles I and IV, 1973 Agreement.
12. Large-scale interference with superpower's (or allies') key theater reconnaissance and command/control systems (including command and control centers)		•	
13. Missile testing outside of superpower's national boundaries (without prior notification to other party)		•	
14. Surprise development and testing of an advanced strategic system by a superpower		(?)	Possibly covered by Article 1, 1973 Agreement.
<b>Other Activities</b>			
15. Sabotage of superpower's nuclear weapon production, storage, and fabrication facilities	(?)	•	Possibly covered by Article 5, 1971 Agreement; also Article IV, 1973 Agreement, appears to cover.
16. Large-scale evacuation of superpower's major cities		•	
17. Superpower's intervention in other superpower's sphere of influence		•	
18. Major intervention by superpower in third-country territory or sphere of influence (including introduction of nuclear weapons into third country)		•	
19. Major arms control violation by superpower	•		

KEY: • Indicates that event is covered by agreement.  
(?) Implies that a question exists as to whether the referenced agreement covers the event.

FIGURE 1  
EVENT ASSESSMENT (Continued)

Category of Crisis Events	U.S.-U.S.S.R. Agreements		Remarks
	1971	1973	
INDIRECT CONTROL			
Allied Involvements			
20. Major internal upheaval in a country allied to a superpower		●	Possibly covered by Article 5, 1971 Agreement
21. Major change/reversal in superpower alliances		●	
22. General mobilization of military forces by country allied to a superpower		●	
23. Seizure or threatened seizure of superpower nuclear weapons in allied country (or third country) by existing government or dissident group	(?) ●	●	
Third-Country Involvements			
24. Threatening deployment by third country of military forces against a superpower or allied country		●	Possibly covered by Article IV, 1973 Agreement, but may be excluded by Article VI
25. Third-country use or threatened use of nuclear weapons against a superpower or allied country		●	
26. Third-country use or threatened use of nuclear weapons against another third country		(?) ●	Possibly covered by Article IV, 1973 Agreement
27. Seizure or threatened seizure of indigenous nuclear weapons in third country by opposing political group		(?) ●	Possibly covered by Article 5, 1971 Agreement if superpower nuclear weapons involved; otherwise possibly covered by Article IV, 1973 Agreement
28. Unexplained nuclear detonation(s) in a country not previously considered to be a nuclear power	(?) ●	●	Possibly covered by Article IV, 1973 Agreement
29. Major expansion/acceleration of third-country nuclear armament program		(?) ●	Possibly covered by Article IV, 1973 Agreement, but may be excluded by Article VI
30. Large-scale war (nonnuclear) between third countries	(?) ●	●	Possibly covered by Article 5, 1971 Agreement, if superpower weapons involved
Other Activities			
31. Exploitation of nuclear devices or nuclear weapons by any group or third country for political or military purposes		●	KEY: ● Indicates that event is covered by agreement. (?) Implies that a question exists as to whether the referenced agreement covers the event.
32. Denial of access to superpower-dependent territories		●	
33. Embargo or blockade of a resource vital to a superpower		●	
34. Major internal political/military upheaval in a superpower		●	
35. Assassination of superpower head of state or leaders		●	

With several possible exceptions, all of the crisis events listed in Figure 1 appear to be covered by one or both of the two bilateral agreements, as indicated by the solid circles. A question mark (?) adjacent to a circle implies that a question exists as to whether the referenced agreement covers the event.

As expected, the 1971 Agreement's coverage is somewhat limited. The Agreement covers 11 of the 35 categories of events contained in the figure; these include events 3, 8, 9, 10, 11, 13, 15, 19, 23, 28, and 31. Coverage of five of these events (9, 15, 23, 28, and 31) is subject to some question; however, these events (with the possible exception of Event 28) are believed to be covered by the 1973 Agreement. Using a broad interpretation for the 1973 Agreement, especially of the coverage by Articles I and IV, this agreement appears to cover the majority of the remaining categories of events. (Coverage is also indicated for those events whose coverage is questionable under the 1971 Agreement.) However, there is some question regarding the applicability of the 1973 Agreement to events 14, 26, 27, 28, 29, and 30. It should be noted that the last five of the six events relate to other country initiatives over which neither superpower may have any direct control.

#### 1. Questions Regarding the Coverage by the 1971 Agreement

Examination of the five categories of events whose coverage by the 1971 Agreement is in question reveals concern over the interpretation of Article 5 of the agreement. The categories of events include:

- Event 9. Unexplained disappearance of superpower's ballistic-missile submarines or nuclear-armed vehicles
- Event 15. Sabotage of superpower's nuclear production, storage, and fabrication facilities
- Event 23. Seizure or threatened seizures of superpower nuclear weapons in allied country (or third country) by existing government or dissident group

Event 28. Unexplained nuclear detonation(s) in a country not previously considered to be a nuclear power\*

Event 31. Exploitation of nuclear devices or nuclear weapons by any group or third country for political or military purposes.\*

Article 5 of the Agreement states:<sup>74</sup>

Each party, in other situations involving unexplained nuclear incidents,† undertakes to act in such a manner to reduce the possibility of its actions being misinterpreted by the other party....

All of the above events can be interpreted as "unexplained nuclear incidents," where superpower nuclear weapons or devices are, or could be, involved and which require superpower decisions and action. Therefore, it seems likely that all five would be covered by Article 5 of the 1971 Agreement. Using this interpretation, the situations do not appear "new" in regard to their not being covered by a bilateral agreement. Moreover, as noted earlier, coverage is also provided by the 1973 Agreement, and additionally, several of the categories have been or are being studied by the arms control community and by other study analysis groups and therefore are not "new" in this context.

## 2. Questions Regarding Coverage by the 1973 Agreement

As indicated in Figure 1, concern over whether the 1973 Agreement covers certain events focuses on six categories of events, of which all but one relate to countries not party to the 1973 bilateral agreement. These six categories of events include:

Event 14. Surprise development and testing of an advanced strategic system by a superpower

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\*Would be covered by Article 5 if the device(s) detonated could be identified as belonging to a superpower.

†Underscoring added.

- Event 26. Third-country use or threatened use of nuclear weapons against another third country
- Event 27. Seizure or threatened seizure of indigenous nuclear weapons in third country by opposing political group
- Event 28. Unexplained nuclear detonation(s) in a country not previously considered to be a nuclear power
- Event 29. Major expansion/acceleration of third-country nuclear armament program
- Event 30. Large-scale war (nonnuclear) between third countries.

Regarding coverage of Event 14, the question arises as to whether Article I of the 1973 Agreement would cover surprise advanced strategic system developments by a superpower. Article I states:<sup>75</sup>

The United States and the Soviet Union agree that an objective of their policies is to remove the danger of nuclear war and of the use of nuclear weapons.

Accordingly, the Parties agree that they will act in such a manner as to prevent the development of situations capable of causing a dangerous exacerbation of their relations,\* as to avoid military confrontations, and as to exclude the outbreak of nuclear war between them and between either Parties and other countries....

Within the context of Article I, it seems that the surprise development of advanced strategic weapon systems may be covered. This assumes, of course, that a superpower would want to discuss and/or expose such a significant system development (or possibly want to trade off the system development to forestall such a development by the opposition).†

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\*Underscoring added.

†Because of the somewhat different nature of this particular event, it is tagged as a "worry area" for additional comment later.

The remaining five categories of events, as previously noted, involve other countries who are not parties to the bilateral agreement, but who are the principal initiators of the events. Events 26 and 30 involve armed conflict between third countries. According to Article IV of the 1973 Agreement, should either the U.S. or the U.S.S.R. judge that such relations between these countries (i.e., those not parties to the agreement) appear to involve the risk of nuclear war between the U.S. and the U.S.S.R., they could then enter into urgent consultations with each other. However, the superpowers' obligations under the agreement to enter into urgent consultations regarding relations between other countries is open to some interpretation (or specific constraints) in light of Article VI of the 1973 Agreement, which states:<sup>76</sup>

Nothing in this Agreement shall affect or impair: ...

(c) the obligations undertaken by either Party towards its allies or other countries in treaties, agreements, and other appropriate documents.

Assuming that Article VI does not exclude coverage by the agreement because of superpower treaties with the specific countries involved, these two events are covered.

Events 27, 28,\* and 29 involve nuclear materials and nuclear-weapon-induced situations that occur within a country that is not a party to the agreement. These events do not appear to be covered by the 1973 Agreement unless the situations are viewed in some manner by a superpower to involve the risk of a nuclear conflict (Article IV). Furthermore, there is once again the question of possible superpower treaty obligations as noted in Article VI, which could serve as an escape clause to negate a superpower's requirement to consult with the other superpower.

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\*In this situation for Event 28, it is assumed that the nuclear weapons involved do not belong to a superpower. Consideration of this category under the 1971 Agreement was contingent on the assumption that they belonged to a superpower.

Although these three may not be considered wholly new events—they have been discussed in either the arms control community or various papers—it seems that they should be viewed as "worry areas" possibly lacking in specific coverage by U.S.-U.S.S.R. bilateral agreements. They do have the potential to draw the superpowers into a third country nuclear situation that could be dangerous.

### C. Consideration of "Worry Areas"

The general circumstances envisioned in the three events tentatively designated as "worry areas" are described below. Also, surprise development of an advanced strategic system (Event 14), an area of current interest and deserving of additional comment, is included.

Event 27. Seizure or threatened seizure of indigenous nuclear weapons in a third country by an opposing political group.

The central idea in this situation is that ownership or control of indigenous nuclear weapons (or possibly, nuclear weapon assembly, production, manufacturing facilities) might be at risk should collapse of a third-country national government be imminent.<sup>+</sup> Dissident factions or invading forces could be threatening to seize the indigenous nuclear weapons or could have already seized them. The legal government might request entry of a superpower to secure and/or remove the nuclear weapons. On the other hand, the superpower's entry to accomplish such tasks may be without invitation. Under certain conditions, (e.g., the political affiliation of the country, its location relative to sensitive geographic-military areas, number of weapons at risk, and anticipated use of the weapons should they be acquired by another group or government) this entry could cause an extremely dangerous situation, including involvement of the superpowers.

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<sup>+</sup>Such a situation is noted by Thomas C. Schelling in a recent article, "Who Will Have the Bomb," in International Security. He speculates how different the course of events might have been in Lebanon in 1975-1976 if that country had possessed an indigenous capacity (even a small pilot plant) to reprocess reactor fuel and to extract plutonium. This idea, of course, can be expanded to include a coup d'etat in a third country possessing a stockpile of indigenous nuclear weapons.<sup>77</sup>

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- Event 28. Unexplained nuclear detonation(s) in a country not previously considered to be a nuclear power.

The circumstances envisioned cover a wide range of possibilities. For example, the detonation(s) might be in a location where no damage results, or the detonation could result in extensive damage and casualties. The detonation(s) might be in an allied country or in another third country and could be accidental or intentional. The weapon (or device) might have been locally manufactured or might have belonged to another country, even one of the superpowers. If intentionally detonated, those responsible might be an opposing political group within the country or agents of another government, including that of a superpower. The motive might be terrorism, coercion, or retaliation for previous actions by the affected country.

- Event 29. Major expansion/acceleration of third country nuclear armament program.

In this situation, the central concern is that such activity by a third country may represent a threat to a superpower, a threat to another country, or could raise serious concern between the superpowers. For example, should the third country be especially hostile to a superpower, be in strong political-military opposition to a superpower, be located on the border of a superpower, or share a combination of such circumstances, its actions are likely to be a source of marked concern to the superpower. On the other hand, given that the country is an ally of a superpower or is considered friendly, concern still exists as to why the acceleration. Reasons might be, for example: the third country's expected collapse of alliance, withdrawal from a superpower's protective cover, a desire to become more independent, an attempt to expand its sphere of influence into adjacent regions, or fear of future attack by a hostile country.

- Event 14. Surprise development and testing of an advanced strategic system by a superpower.

The possibility that a scientific breakthrough might generate a situation in which technological surprise (e.g., the surfacing of a new advanced weapon system or markedly upgraded performance in an existing system) could significantly (or even decisively) affect the strategic balance is obviously a legitimate "worry area" so far as increased risk of nuclear

war is concerned. However, it seems equally obvious that neither the United States nor the Soviet Union could consider giving up or bargaining away the right to pursue and to engage in the kinds of basic research that might lead to such breakthroughs. Further, it seems that neither party would trade away its right to use such technology if it should provide a distinct major military advantage. Obviously, neither party has a monopoly on advanced technology. It is a highly competitive area where the efforts of both parties are characterized by a massive commitment of resources to catch up, maintain a balance with the other, or to obtain a lead.\*

From the foregoing review and assessment it is evident that the 1971 Agreement covered "events" that might increase the risk of nuclear war (accidental launch, unexplained detonations, etc.) and that the 1973 Agreement covered "situations" that might arise that could increase risk of nuclear war (crises, states of hostility, and war between other nations, etc.). In the same broad context, there is possibly a third category, which although certainly not new, perhaps should be mentioned—that of an adopted or declared military strategic doctrine or policy that has the potential to increase the risk of outbreak of nuclear war. The kinds of doctrines and policies envisioned are primarily policies relating to the employment of nuclear weapons. For example, they might include such widely discussed topics as:

- o Reliance on tactical-theater nuclear weapons to compensate for conventional military weaknesses
- o Doctrines to bypass the ground vulnerability of missiles by launch-on-warning tactics (increases risk of unnecessary, accidental nuclear war through faulty assessments generated by the need for haste in making the decision to launch)

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\*Dr. George H. Heilmeier, Director of the DARPA, in the September-October 1976 issue of Air University Review, provides a concise treatment of technological surprise and its historical perspective, prevention, and the future. Dr. Heilmeier outlines areas where technological surprise may be critical; these areas include space defense, antisubmarine warfare, undersea vehicles, passive surveillance, and ballistic-missile defense.<sup>78</sup>

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- o Doctrines espousing the development of limited nuclear war options.

Proponents of such doctrines argue that each of these policies is intended to and will achieve a reduction in the likelihood of nuclear war, nuclear blackmail, or conventional war. Admittedly, this is a highly controversial and complex subject, but the prospect remains that while such doctrines might in some cases reduce the likelihood of war, they could also increase the possibility of accidental or inadvertent nuclear war.

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